Chemical Marketing Reporter

NEWS AT HOME

NEWS ABROAD

THE MARKETS

CMR MARKET INDEX

CHEMICAL MARKETING REPORTER's market index of chemicals and related materials (100=1974 average), based on 97 key commercial chemicals, appears alongside with data for two weks ago, last month and last year.

June 6, 1986	152.53
May 30, 1986	152.29
May 9, 1986	152.63
June 7, 1985	156.55

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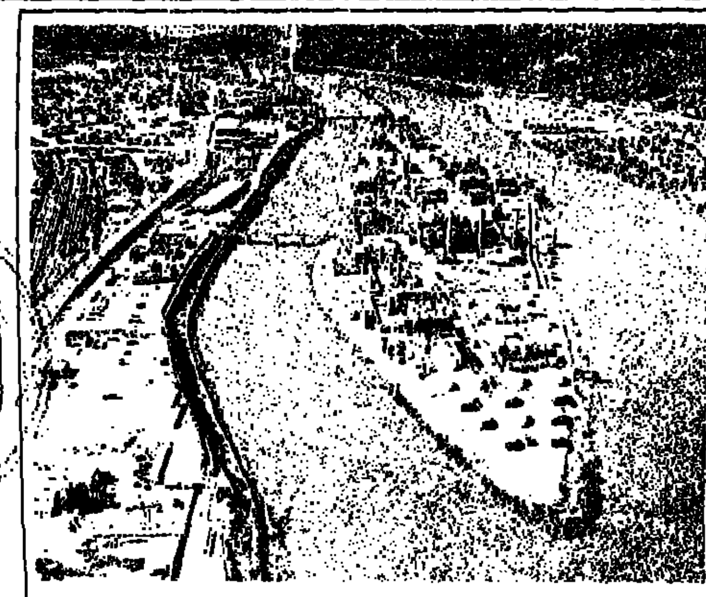
CHROME CHEMICALS: Two major produc[illegible] ing tabs ....
PEPPERMINT oil inventories are reported to be [illegible]

Chemical Marketing Reporter



Right-to-Know Okayed 3

NEWSPAPER SECOND CLASS P.O. ENTRY AUGUST 4, 1986 $2.25 an issue, $65 a year

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Bioreclamation Budding H_2O_2 Market

Hydrogen peroxide producers, anxious to create new demand to meet the 200-million pounds of annual capacity due on stream in the next two years, are helping to develop and promote peroxide's use in cleaning up underground contaminants, a market which one producer says could see "tens of millions of pounds" of H_2O_2 annually within the next few years.

Called in-situ bioreclamation, the technology is a process in which nutrients, such as nitrogen and phosphorus, are injected into the ground, along with hydrogen peroxide, at the site of an underground leak of gasoline or other hydrocarbons.

The nutrients in conjunction with oxygen freed from peroxide stimulate the reproductive growth of naturally occurring micro-organisms in the soil which feed on the hydrocarbon source, eventually degrading it to simple carbon dioxide and water.

The process of stimulating the micro-organisms to feed on the contaminants is currently being used by FMC Corporation, Biosystems, Inc., Chester, Pa., and Groundwater Technologies, Inc., Norwood, Mass. Sources say that stimulating the microorganisms' growth by injecting nutrients and oxygen greatly speeds the natural process by which the microbes degrade the hydrocarbon source.

Cliff Harper, managing hydrogeologist at Groundwater Technology, says that, while it might take nature 100 years to biodegrade an underground gasoline leak, bioreclamation can achieve the same results in under five years.

The technique was first used to cleanup a leaking

Continued on Page 20

H_2O_2 cleans up. An Interox technician employs a portable gas chromatography unit to document the effectiveness of hydrogen peroxide in cleaning up industrial spills in a customer's plant. In new application of the versatile chemical it will be used to aid the clean-up of underground spills.

Chemical Marketing Reporter
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AUGUST 4, 1986

American Cyanamid Sells More Commodity Lines

American Cyanamid Company continues to sell off its commodity chemicals business. Last week, the company completed the sale of its North American dicalcium phosphate business, to Occidental Chemical Corporation.

Cyanamid also reached an agreement in principle to sell its calcium carbonate deposits, and mining and ore processing equipment to Iowa Limestone of Des Moines. Calcium carbonate is a raw material used in making dical phosphate.

A Cyanamid spokesman says the sale of its calcium carbonate business takes the company out of the mining business. Late last year, the company sold its stake in the phosphate rock reserves owned by Brewster Phosphates (a partnership 75 percent owned by AmCy and 25 percent owned by Kerr-McGee Corporation) to International Minerals & Chemical Corporation. Cyanamid also sold its position in Brewster's Luling, La., phosphate fertilizer plant to Freeport Chemicals earlier this year.

The decision to sell the dicalcium phosphate business was made after Cyanamid agreed to dispose of its remaining mining assets, a company spokesman says. AmCy would be left without a raw material position in the dical business after selling its calcium carbonate assets, he says. Dical is produced by reacting calcium carbonate with phosphoric acid.

Cyanamid's dicalcium phosphate assets included production plants at Alden, Iowa; Weeping Water, Neb.; Hannibal, Mo.; and Welland, Ontario. Iowa Limestone is acquiring calcium carbonate deposits and mining and processing equipment at Alden and Weeping Water. Terms were not disclosed in either deal.

Cyanamid's thrust in the agriculture market will now be concentrated on its sizeable pesticide business and its growing line of hi-tech animal nutrition products. At the head of this list are the feed additives, aureomycin, used for disease prevention and "Tramasol" de-worming products.

For its part, Occidental leapfrogs ahead of IMC to become the largest producer of dicalcium phosphate in the US. AmCy's three US plants have a total capacity of about 160,000 tons of dicalcium phosphate which when added to Oxy's current 430,000 ton nameplate, puts Oxy ahead of IMC's 500,000 ton per year plant in New Wales, Fla.

However, dicalcium phosphate, which is primarily used in animal feed, has fallen on hard times in recent years. Declining cattle and swine herds have cut into its demand base. So has the encroachment of defluorinated phosphate rock into the poultry market. These factors have led to a drop in dical production.

Through May, Fertilizer Institutes reports that dical output was trailing 1985's 500,000-ton production total by 7 percent. Looking ahead, analysts predict only a modest 1 percent growth rate for the animal feed through the decade.

As a result, the industry has entered a period of consolidation. First, Beker Industries Corporation, the financially troubled fertilizer company currently in Chapter 11, shut its 175,000-ton-per-year plant in Marseille, Ill. at the beginning of the year.

Even with the Beker shutdown, sources say industry capacity is grossly underutilized. One producer says the market is in a difficult position, and "there is apparently no room for all the existing plants."

Superfund Pleases Critics Of The Chemical Industry

Despite some reservations, national environmental groups and their allies in Congress say they are generally pleased with the outcome of lengthy superfund negotiations and they plan to support the five-year, $8.5 billion compromise bill.

"It's not as good as we hoped but it's not as bad as we feared," says Leslie Dach, associate director of the National Audobon Society. "There's no question this is a far better bill than current law."

"We got nearly all of what we wanted in superfund," adds Rep. James J. Florio (D-N.J.), the author of the original $1.6 billion toxic waste cleanup program which lost its taxing authority last Sept. 30 when the law expired.

"We've gone a long way toward putting some teeth into the law," says Rep. Florio. "It's a good bill that provides most of the tools we need to finally start cleaning up the toxic waste sites threatening our health and environment."

INDUSTRY VIEWS

Industry has offered qualified support to the House-Senate compromise agreement, but the predominant initial reaction from chemical spokesmen was "we're glad it's over." A spokesman for E. I. du Pont de Nemours & Co. called the agreement a "mixed bag." He called some provisions of the bill "constructive" but labeled parts of the community right-to-know provisions "onerous."

In his view, the right-to-know proposals would require the company to generate a "tremendous volume of information without accomplishing much to protect the community." The most important issue facing Du Pont, he added, was the bill's funding requirements, which have yet to be settled.

A Dow spokesman also expressed concerns about the right-to-know reporting requirements, but added that the compromise list of reportable chemicals, patterned along OSHA's hazardous chemical communication list, is "workable."

A Monsanto official, also had reservations about certain provisions of the bill, but summed up the company's reaction by saying "there is enough good (in the bill) to outweigh things we don't find appealing." He, like the Du Pont and Dow officials, expressed concern about being "overwhelmed by paper" in the right-to-know provisions of the bill.

A House-Senate conference committee is nearly finished writing a final superfund reauthorization bill to present to both houses for approval. Major differences between the legislation passed by each chamber last year have been resolved. However, the conference panel must still decide how to pay for the greatly expanded clean up program.

After six months of discussion, Rep. Florio predicts that both houses will approve the bill, along with a financing mechanism, before Congress begins its Summer recess August 15.

Environmentalists say a highlight of the

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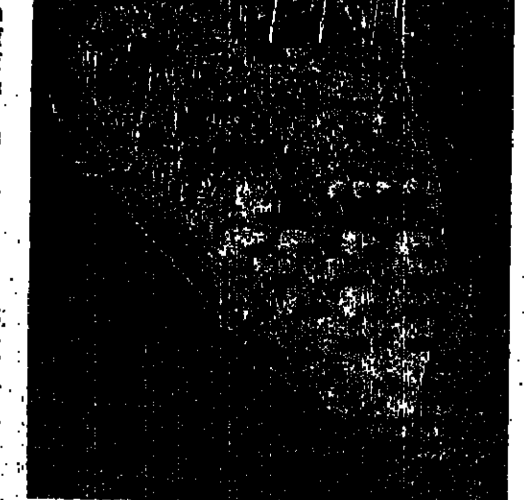

CHEMICAL COMPLEX: New superfund law requires companies to report to state and local officials the amount and location of hazardous substances.

Grace Loses First Round In Boston Contamination Trial

W.R. Grace & Co. has lost the first round in what is seen as a precedent-setting case involving industrial pollution of public drinking water supplies.

In a Federal court in Boston last week, a six-member jury found that Grace "substantially contributed" to the contamination of two wells in Woburn, Mass., a Boston suburb found to have a higher-than-normal incidence of leukemia.

Plaintiffs in the case allege that the contamination of Woburn drinking water supplies was repsonsible for six leukemia-related deaths and other illnesses since 1978, and are seeking unspecified damages from the company.

Beatrice Companies Inc., which was also named in the suit, was not found repsonsible for contamination of the wells.

Grace admits that small amounts of trichloroethylene and tetrachloroethylene were occassionally disposed of by workers at the Woburn site of its Cryovac Division, but the company contends that the chemicals could not have migrated to the wells before May 1979, when they were closed.

The solvents were used to clean equipment at the Cryovac Division, which makes food-packaging machines. Grace stopped using TCE at the site in 1974.

Both solvents are classified by Environmental Protection Agency as probable human carcinogens.

The jury will reconvene in September for the second phase of the case, when it will hear testimony on whether the chemicals were actually the cause of the leukemia and other illnesses, including heart and nervous disorders. In the first phase of the trial, the jury heard five months of testimony and deliberated for nine days.

If the jury finds in favor of the plaintiffs, a third stage in the case would involve determination of damages. Grace could be liable for compensatory and punitive damages to the families of the five children and one adult who died of leukemia, as well as for compensatory damages to plaintiffs alleging other illnesses.

Ethylene Oxide Exposure Would be Reduced by Court

A Federal court of appeals has ordered the government to issue a rule limiting short-term workplace exposure to ethylene oxide, a sterilizing chemical believed to cause cancer and genetic damage, or to justify its refusal to do so. The US Court of Appeals for the District of Columbia affirmed the eight-hour exposure limit Occupational Safety and Health Administration set for ethylene oxide in 1984, but said the agency's failure to limit short exposures to high concentrations of the chemical "is not supported by the record."

The court ordered OSHA to "either adopt" a short-term exposure limit (STEL) or explain why such a measure is not necessary.

As many as 100,000 health care technicians may be exposed to the gas, which is used to sterilize medical supplies and equipment, according to estimates by the National Institute for Occupational Safety and Health (NIOSH).

The workers are typically exposed to quick, concentrated bursts of the gas when the door of a sterilizing machine is opened and when gas is released from the protective wrappings of freshly sterilized material.

When OSHA proposed the current exposure limit of 1 part-per-million (PPM) over an eight-hour period, it also proposed a STEL of 10 ppm over a 15 minute period. But the agency withdrew the plan a day after the White House budget office charged that OSHA's analysis was flawed.

Public Citizen Health Research Group and several labor unions appealed OSHA's decision by filing a lawsuit against the Federal government charging that current regulations on the chemical are too lenient.

The groups argued that OSHA's refusal to issue a STEL was not supported by the evidence and that OMB's participation in the rulemaking process was illegal.

OSHA said last year that before it could issue a STEL on ethylene oxide, it would need evidence that the same total dose of the chemical causes more harm when delivered in a quick spurt than over a longer period.

Reilly Tar and EPA Agree on Groundwater

Environmental Protection Agency and the state of Minneasota have reached a $14 million agreement with the Reilly Tar & Chemical Corp. to clean up groundwater pollution at a company waste dump in St. Louis Park, Minn.

The Reilly Tar site is a priority toxic waste dump under the agency's superfund program.

The company has also agreed to restore full capacity to the city's water system, which was contaminated by waste from the site, and to reimburse EPA $1.72 million and the state $1 million for past and future investigative and legal costs.

In addition, Reilly Tar has agreed to monitor the groundwater for at least 30 years and to implement any additional remedial measures necessary.

Soil and groundwater at the dump were contaminated with coal-tar and creosote from the company's coal-tar distilling and wood-treating operation.

John Giordani, who has been appointed vice-president-finance and chief financial officer of ICN Pharmaceuticals, Inc. He was previously vice-president and corporate controller of Revlon, Inc.

Morton Thiokol Buys Powder Coatings Unit

Morton Thiokol, Inc. last week said it acquired the powder coatings business of the Polymer Corporation, Reading, Pa. The Polymer Corporation is a wholly owned subsidiary of Chesebrough-Ponds Inc. The new acquisition is to be merged with Morton Chemical Division's existing powder coatings business (Armstrong Products, Warsaw, Ind.) and will be headquartered in Reading, Pa.

Under the direction of Thomas J. Scattoloni, vice-president for powder coatings, the new organization will operate as the Powder Coatings Group with the Morton Chemical Division.

Dow, Italian Firm In Chloralkali Pact

Dow Chemical Company and Oronzio De Nora S.p.A., Lugano, Italy, formed a new joint venture devoted to developing and commercializing chlor-alkali membrane cell technology. The 50-50 joint venture will operate globally, selling and licensing plant technology and equipment to third parties. Initially, operating subsidiaries will be established in the US and Italy and later in other countries.

The new company, to be known as Oronzio De Nora Technologies, will commercialize monopolar and bipolar membrane cell technology, primarily developed through joint research agreement, as well as certain other related chlor-alkali technologies contributed to the joint venture by Dow and De Nora. It will also continue the joint research program previously started by the two parent companies.

Oronzio De Nora Technologies is expected to be operational before the end of 1986. Dow and DeNora have an existing joint venture in Lugano, Switzerland, which commercializes the cathodic protection technologies of the two companies.

Asarco Plans to Sell Mine to Brunswick

Brunswick Mining and Smelting Corporation announced last week that it has reached an agreement in principle to acquire Asarco's 25 percent interest in the Little River Joint Venture which owns the Heath Steel Mine in Northern New Brunswick. The other 75 percent is held by Noranda.

Brunswick will finance a $5 million exploration program to be carried out by Noranda Exploration over the next five years on the property outside the existing reserves and infrastructure.

This expenditure will earn Brunswick an additional 25 percent interest in this area from Noranda with ownership and development of any finds on fifty-fifty basis with Noranda.

The Heath Steel Mine ceased production in April, 1983, and is currently on a care and maintenance status with the underground workings being pumped out, which will continue for the immediate future.

Some surplus assets will continue to be sold in order to offset the costs of this program. When operating, the mine produced primarily lead, zinc, copper and silver.

At current and forecast metal prices, the current reserves are not economic, so any future reopening will depend upon the success of the exploration program in finding economic mineralization, the company says.

Daniel D. Witcher, who has been elected senior vice-president for the worldwide human health businesses of Upjohn Company. He was previously vice-president for those businesses.

Eastman Kodak In Biotech Venture

Eastman Kodak Company, Rochester, N.Y., and Engenics, Inc., Menlo Park, Calif., have entered a joint development program to develop biochemicals that serve markets related to nutrition.

Under the terms of this agreement, Engenics will conduct work in microbial strain development, using the tools of molecular biology, and will also carry out projects in process development. Kodak's Bio-Products Division will be responsible for manufacturing scale-up and commercialization of the product.

"This agreement expands our ability to participate in markets related to nutrition, an area of growing opportunity for the Bio-Products Division," says Dr. Kenneth C. Kennard, general manager and vice-president of the division. "Engenics' expertise in biochemical process development will complement our skills in fermentation, separation and purification."

John L. Richardson, Engenics president and chief executive officer, adds, "Our team of engineers and scientists, who have expertise in all phases of bioprocess development, will help shape promising new areas of opportunity for both companies."

Air Products Licenses Technology

Air Products & Chemicals, Inc., has licensed a proprietary titanium carbide (TiC) chemical vapor deposition (CVD) technology from the Centre Suisse d'Electronique et de Microtechnique S.A. (CSEM).

The agreement provides Air Products with an exclusive U.S. license for manufacturing, selling and using TiC products produced by the CSEM process. Other recent Air Products initiatives in advanced ceramics include its acquisition of San Fernando Labs and Materials Technology Corporation in 1984 and 1985, respectively.

The CSEM technology can be used to coat steel substrates without diminishing key metallurgical properties such as yield strength and fatigue resistance.

Its ability to deposit a uniform, coating on spherical substrates is said to make the technology particularly amenable for precision balls used in miniature bearings for gyroscopes, satellite components, and electronic systems.

Air Products' initial plans for commercializing the technology will focus on miniature bearing applications and will include collaborative efforts within the industry and ongoing commercial and technical programs with SCEM.

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Upjohn Tests Herbal Compounds

Upjohn Company says it has entered into a research agreement to screen and develop compounds derived from Chinese herbal medicines that have never before been studied in the West.

Under the agreement, Shanghai Institute of Materia Medica has provided Upjohn with research quantities of compounds isolated from 10 Chinese herbal medicines used for centuries in China for treatment of a wide range of human disorders, including cancer, cardiovascular disease and central nervous system malfunctions.

Upjohn has agreed to pay Shanghai Institute an undisclosed sum for access to the most promising of the compounds as well as royalties should any of the compounds be developed into commercial products by Upjohn.

"This agreement is a significant step in our worldwide research endeavor and provides an interesting complement to our expanding use of rational, targeted drug discovery and development techniques," says Jacob C. Stucki, Upjohn's corporate vice-president for pharmaceutical research.

Shanghai Institute says the agreement with Upjohn is the first such accord it has entered into with a Western pharmaceutical firm. The institute expects the collaboration to lead to "future cooperative efforts that can benefit both Upjohn and the institute and lead to the development of new drugs."

Upjohn says it intends to apply advanced techniques to test the compounds for their maximum biological activity. "We can't be sure that any of them will offer more therapeutic benefit than what might already exist in the pharmaceutical marketplace," Upjohn concedes. "However, they have not appeared in the scientific literature before, and we're excited to have this unique opportunity to test these compounds and enhance our discovery efforts."

Disclosure of the compounds will occur in the scientific literature after patents are secured and other preliminary work is completed, Upjohn says.

Methylene Chloride Faces Possible Future Restrictions

Consumer Product Safety Commission began a rulemaking proceeding last week that could result in a declaration that products containing methylene chloride are "hazardous substances" due to a carcinogenic risk from inhaling the vapors of the chemical.

If the commission eventually rules that methylene chloride-containing products are hazardous, the chemical could be banned or its use strictly regulated.

Sources say the commission is currently leaning toward requiring specific warning labels on products containing methlene chloride. First, however, the law requires a detailed and often lengthy process of collecting data and holding hearings before a formal rule can be issued. It was this process that was initiated by the commission.

Substantial quantities of the chlorinated solvent are found in aerosol spray paints and chemical paint strippers. The National Toxicology Program has found methylene chloride causes cancer in laboratory animals at levels in air similar to those humans might encounter in the occasional use of those products without adequate ventilation.

The commission has been considering information on the toxicity of methylene chloride for several years and in August 1985 was petitioned by the Consumer Federation of America to begin rulemaking to find that the chemical is a hazardous substance and to subsequently ban its use.

In addition to the safety commission, several other government agencies are also examining methylene chloride.

Food & Drug Administration has moved to ban it from hair sprays, Environmental Protection Agency is studying its dangers and Occupational Safety & Health Administration has developed a series of chronic warning labels for industrial products containing the chemical.

However, FDA has declined to prohibit use of methylene chloride in the process of decaffeinating coffee, concluding that only minimal consumer exposure occurs in that use.

The commission has been working with the consumer federation and the nation's paint manufacturers on ways to reduce its use or provide consumer warnings.

The Halogenated Solvents Industry Association, which represents methylene chloride manufacturers, has also been active in working with regulators on ways to reduce exposure.

Monsanto Sheds Chemicals For Biotech, Specialties

Monsanto Company is winding up a five-year period in which the company has shed some $2 billion to $2.5 billion in unwanted commodity chemical assets and positioned itself to move ahead in chosen fields of biotechnology, pharmaceuticals and specialty engineering plastics.

Earle H. Harbison, president and chief operating officer of Monsanto, told trade press editors at a briefing in New York last week that "the biotechnology push is probably the centerpiece of what we are doing now."

Monsanto is selling its Texas City, Tex. petrochemical complex for $160 million to Sterling Chemicals, Inc. this month, sale of the company's US polystyrene assets to Polysar, Ltd. will follow this quarter and Monsanto's plastic bottle and container business has just been put on the block.

Mr. Harbison hastens to add that chemicals are still a big part of the company's business, however, and will remain so. The current $3.2 billion chemical mix is "solid, with good return, good margins and good product differentiation," he says, adding that fully half Monsanto's budget is devoted to chemicals.

The company's six chemical divisions, which have aggregate sales of more than $3 billion, roughly half the company's total, are "returning 15 percent or so and should continue to do that," Mr. Harbison says.

At the same time, he describes Monsanto in 1986 as "a chemical, biotechnology-driven company" and admits that since other segments of the company are growing at a much faster rate, chemicals will, of necessity, account for a lesser proportion of total revenues in the future.

Monsanto expects to be on the market with its bovine growth hormone product in the late 1980's, Mr. Harbison says. An improvement of 15 percent in the feed-to-milk ratio has been demonstrated using the product and 20 to 40 percent increase in milk production. An issue, he says, is the massive amount of material that has to be fermented to obtain the product.

In human pharmaceuticals, Mr. Harbison says an atrial peptide product (antihypertensive) which grew out of work with Washington University has promise, "but it's too soon to say if it is real." A $25 million five-year research agreement with the university was extended this year and funding more than doubled.

Mr. Harbison says the tissue plasminogen

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Formaldehyde Study Condemned on the Hill

A recent National Cancer Institute study that found "little evidence" that formaldehyde causes cancer among the 1.4 million workers exposed to the chemical ran into a storm of criticism on Capitol Hill last week.

At a House Energy and Commerce oversight subcommittee hearing, labor union safety directors and several congressmen challenged both the conclusions and NCI's propriety in cosponsoring the study with the Formaldehyde Institute, a trade group representing formaldehyde manufacturers.

The four-year, $1 million study, released in March, found that deaths from lung cancer were 32 percent higher than normal among the 25,000 workers studied, and found higher than average rates of upper-respiratory cancer.

But NCI concluded there was no link between formaldehyde and these cancer increases, because workers with longer, heavier exposure to the substance did not show higher cancer rates than workers with fewer years of exposure.

As many as 1.4 million workers in 50,000 factories are exposed to formaldehyde. Nine billion pounds of the chemical are produced annually in the US for use in producing plastics, textiles, plywood and other products.

Tests have shown formaldehyde has caused cancer in laboratory animals. It has been termed an irritant to humans, but not a cause of cancer.

Occupational Safety & Health Administration is currently considering proposals to lower the standards for workplace exposure. At hearings in May, manufacturers pointed to the NCI study as evidence that formalde-

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Rep. John Dingell disagrees with study conclusions.

Ground Water Action Needed at State Level?

State agencies must develop protection programs for the nation's threatened ground water supplies in addition to concentrating on cleaning up already-contaminated water, says a report by the National Research Council in Washington, D.C.

It is also imperative for states to use their regulatory powers to control contamination from waste-producing industries, pesticides, underground storage of toxic substances and road salt runoff, said Anthony D. Cortese, director of Tufts University's Center for Environmental Management and one of the report's contributors.

"Today, much of the nation's attention is concerned with correcting ground water degradation resulting from historic practices.

"However, the nation is facing continued economic development, population growth and acceleration in the development of new products and technology that make it imperative that governmental programs focus on prevention," says the report, "Ground Water Quality Protection: State and Local Strategies."

The review of 10 state and three local ground water protection programs was undertaken in January 1985 by the council's Water Science & Technology Board at the request of Environmental Protection Agency. Programs were reviewed in Massachusetts, New York, New Jersey, Connecticut, Florida, Kansas, California, Arizona, Colorado and Wisconsin.

The report looked for "features that show progress and promise in providing protection of ground water quality. It is hoped that these features can be used as practical models for others who are attempting to develop and enhance state and local ground water protection programs," it says.

The committee found no single ground water protection program that addressed all the issues. But the programs provide useful models for the development or improvement of

Continued on Page 19

Chemical Companies Pitch In To Aid Drought-Stricken Farmers

Aiding drought-stricken farmers in the Southeast has become a national endeavor, with even a few chemical companies donating resources for the cause.

Last week, a convoy of Monsanto Company trucks arrived in Greenville, S.C., carrying 350 tons of hay donated by Michigan farmers to feed the state's starving livestock.

Eastman Gelatine Corporation of Peabody, Mass., a wholly-owned subsidiary of Eastman Kodak Company, phoned state agricultural officials last week with an offer to send a railcar of dicalcium phosphate, an animal food supplement.

"We were aware of the plight of the Southern farmers," Eastman says. "Animal food supplements seemed to be something they could use."

Dicalcium phosphate is a by-product of Eastman's photo emulsion gelatin operations in Peabody.

Indiana farmers sent 77 boxcars of hay on a train donated for the purpose by CSX Corporation last week, while Air Force cargo planes earlier delivered hay from Illinois.

Predictably, politics has entered the hay relief efforts in South Carolina, where the governorship is up for grabs in the Fall, and the state's junior US Senator is running for reelection.

Sen. Ernest F. Hollings (D-S.C.) complained that the Reagan Administration ignored his request for Air Force cargo planes to transport 30 tons of hay from Massachusetts, while the White House accommodated a similar request to transport Illinois hay from Rep. Carroll A. Campbell Jr. (R-S.C.), who is running for the statehouse.

There's a "political tap dance going on," with different politicians claiming credit for the hay coming in, observes Jerry Dyer, spokesman for South Carolina Department of Agriculture. "We just continue to march."

He says the state's farmers need 270,000 tons of hay between now and Spring, and even with the donations, there probably won't be enough. "It's bad. Very bad," he says.

CHEMICALS IN WRECK: Presence of FMC 'Thiodan' among other chemicals in railcars blown off bridge in Boone County, Iowa, prompted concern for Des Moines River. A check of the water found no contamination, however.

Butadiene Price Falls In Line With Crude's Swing Capacity Cited

Butadiene prices have dropped sharply since the first of the year, according to producers and market analysts, under the influence of the severely depressed price of crude oil. Butadiene values have halved since January 1, a producer said last week, and an analyst suggests there could be additional price deterioration.

"I think the price can go lower," he says. "I think it would be disastrous if it did, but there is the potential."

Butadiene was quoted last week at 13 1/2 cents per pound by one maker, but actual selling prices may be below 13 cents. The current market price is pegged by an observer at somewhere between 12 and 13 cents per pound.

These prices compare to selling levels in the early first quarter of 27 1/2 to 29 cents per pound.

First among reasons given for the precipitous drop is the shift at domestic basic olefins plants to heavy feedstocks. The consequence of the shift is a significant upsurge in production of coproduct butadiene and oversupply of the material.

"Crude declined so much that it became very profitable to crack heavy gas oils in the US," explains an analyst, who notes that a switch back to lighter feeds, predicted by some in April and May, never materialized. "Ethane just hasn't become competitive with gas oil and naphtha yet," he says.

It's estimated that 25 to 30 percent of olefins production capacity in the US is highly flexible and can swing widely between heavier and lighter feeds in feedstock slates.

Before the swing to heavier feeds, US crackers were running approximately 22 to 23 percent naphtha/gas oil overall, and that figure has now risen to 35 to 40 percent.

Right now, "The economics are such that heavy feeds are overwhelmingly the way to go," in the words of a butadiene maker, and that means there is far more material on the market than when lighter feeds predominate.

Given the rise in US supply, an analyst says, "we have been slowly turning off the spigot on imports."

He notes that June butadiene imports totalled 30 million pounds, which annualizes to a full year total of 360 million pounds. That compares to 600 million pounds imported in

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Polymer Alloys: Monsanto Adds New Wrinkles

Monsanto Company, an old hand in polymer alloy technology, has added some new wrinkles to its latest product, a nylon-ABS series of high-impact engineering thermoplastics which the company is calling "Triax" 1000.

Key to the series, according to Monsanto, is proprietary alloying technology which makes possible true alloying of highly dissimilar materials.

Suren D. Khanna, "Triax" program manager, stresses the balance of properties in the product, along with high-impact strength. More cost effective than toughened nylon, he says, the new alloy has significantly reduced moisture sensitivity.

Better chemical resistance and lower specific gravity makes it cost effective versus polycarbonate, and maintenance of high impact strength at room and cold temperatures makes the "Triax" series a prime candidate for injection molded power tools, snow blowers and lawn mower components, he says.

In field testing for a year, the materials

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BASF Slates Specialties Unit At Geismar, La.

BASF Corporation said last Thursday that it will begin construction in September of a $25 million specialty chemicals plant at its Geismar, La., facility.

The plant will manufacture tetrahydrofuran and polytetrahydrofuran which is used in polyurethane elastomers, thermoplastics, casting resins, textile coatings and fibers. Consumer products using the material include swimsuits, ski suits, ski boots and ultrasuede garments.

The new facility will employ 26 full-time, permanent employees with an annual payroll of more than $1 million, and 160 workers during peak construction periods. Construction will be performed by a Louisiana firm and is expected to be completed in October 1987.

"The fact that we are investing $25 million in our Geismar facility, at a time when many other chemical companies are reducing op-

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Daminozide Shunned

Doubts about the safety of daminozide have led wholesale apple buyers to shun treated crops even though the government has not banned the pesticide, says an apple industry spokesman.

Daminozide is a growth regulator sold under the trade name "Alar" by Uniroyal Chemical Company. Growers say it yields a redder, more easily harvested apple with a longer shelf life that keeps apples in supermarkets the year round.

Environmental Protection Agency attempted to remove "Alar" from the market last year on the grounds that the chemical breaks down to unsymmetrical dimethylhydrazine which has been shown to cause cancer in animals in several laboratory studies.

But the agency's independent scientific advisory panel said a ban was not warranted by the current evidence, so EPA announced in January that "Alar" could be used while Uniroyal performed additional animal studies.

Part of the agreement with the agency was that the company would issue an "advisory statement" warning against use on apples destined solely for processors who make juice, cider, sauce and other products.

This created a gray area for apples grown for the fresh market but diverted to processors because they were not top grade. The advisory statement led buyers to tell growers they do not want "Alar"-treated fruit.

Buyers "just can't afford it," says Deri Derr, executive director of the International Apple Institute. Some companies, he says, have concluded that use of "Alar"-treated apples originally grown for the fresh market would leave them vulnerable to lawsuits.

Celanese Claims Expansion In Engineering Resins Area

Celanese Engineering Resins Inc. claimed last week that it now offers the widest range of engineering resins of any producer in the US, as a result of recent acquisitions, expansions and other developments. Company spokesmen made these assertions at a press conference in New York last week.

Although it ranks third in the US in terms of sales, behind General Electric and Du Pont, Celanese's high-performance engineering resins now include of ten distinct materials, many developed within the past two years as a result of transfers and technology licensing.

It recently acquired the worldwide rights to GAF's technology and assets in PBT (polybutylene terephthalate)-based products and thermoplastic elastomers.

As of July, 1986, it has also acquired the exclusive North American sales rights, semi-exclusive European sales rights, and non-exclusive South American sales rights to Kureha Chemical Industry Company Ltd. of Japan's PPS (polyphenylene sulfide) resins.

Celanese will now market these heat-resistant resins under the trademark "Fortran." Initially the firm will sell resin produced in Kureha's Japanese plant, but it expects to build a PPS production plant in the US as soon as sales justify the move.

"Fortran" will give Celanese more of a competitive presence in the electrical/electronics market, which accounts for 34 percent of the total market for PPS. Approximately 10 million pounds of this resin were sold in the US last year, and demand is expected to increase at the rate of 15 percent annually through 1995. PPS will be important in situations where extreme heat is involved, for example, in the production of printed circuit boards. Although it is now primarily an injection molding resin, Celanese is working to develop extrusion grades, and to use PPS in advanced composites.

The firm reports that it has expanded its presence in Europe, with the recent establishment of Celanese GmbH, a new sales, marketing and technical support company for engineering thermoplastics located in Westphalia, West Germany. The firm and will have branch offices in Stuttgart and Munich; and promote market growth through joint development ventures with customers.

Celanese will also be increasing its involvement with the US automobile industry, by far the largest end-user of its thermoplas-

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P-D Smelter Back On Line After Pact

Phelps Dodge Corp. last week resumed operations at its copper smelter at Douglas, Ariz., after negotiating a consent agreement with Environmental Protection agency and the Arizona Department of Health Services.

The agreement, filed in Federal district court in Tucson Tuesday, requires the company to permanently close the smelter no later than January 15, 1987.

Smelting had been suspended on July 9 to avoid violating a Clean Air Act standard for sulfur dioxide emissions. The approximately 280 workers laid off have returned to their jobs.

According to EPA, Phelps Dodge has agreed to pay a $400,000 fine for past sulfur dioxide pollution from the smelter and $100,000 for each future violation of various pollution regulations.

In addition, the company has agreed to sharply reduce short-term sulfur dioxide emissions from the plant. Groundlevel concentrations of the pollutant will be limited to an average of two parts per million over six minutes.

National air quality emission standards prohibiting averages of more than 0.5 ppm over three hours, or 0.14 ppm over 24 hours remain in effect.

If the company violates the special short-term standard five times, EPA and Arizona officials would have the authority to immediately shut down the plant.

Environmental Defense Fund, which has been pressing EPA to close the smelter permanently on the grounds it is a health hazard to asthmatics in the area, criticized the agreement and said it may file a lawsuit.

Monsanto Unit Making 'Saflex' To Rise in Ghent

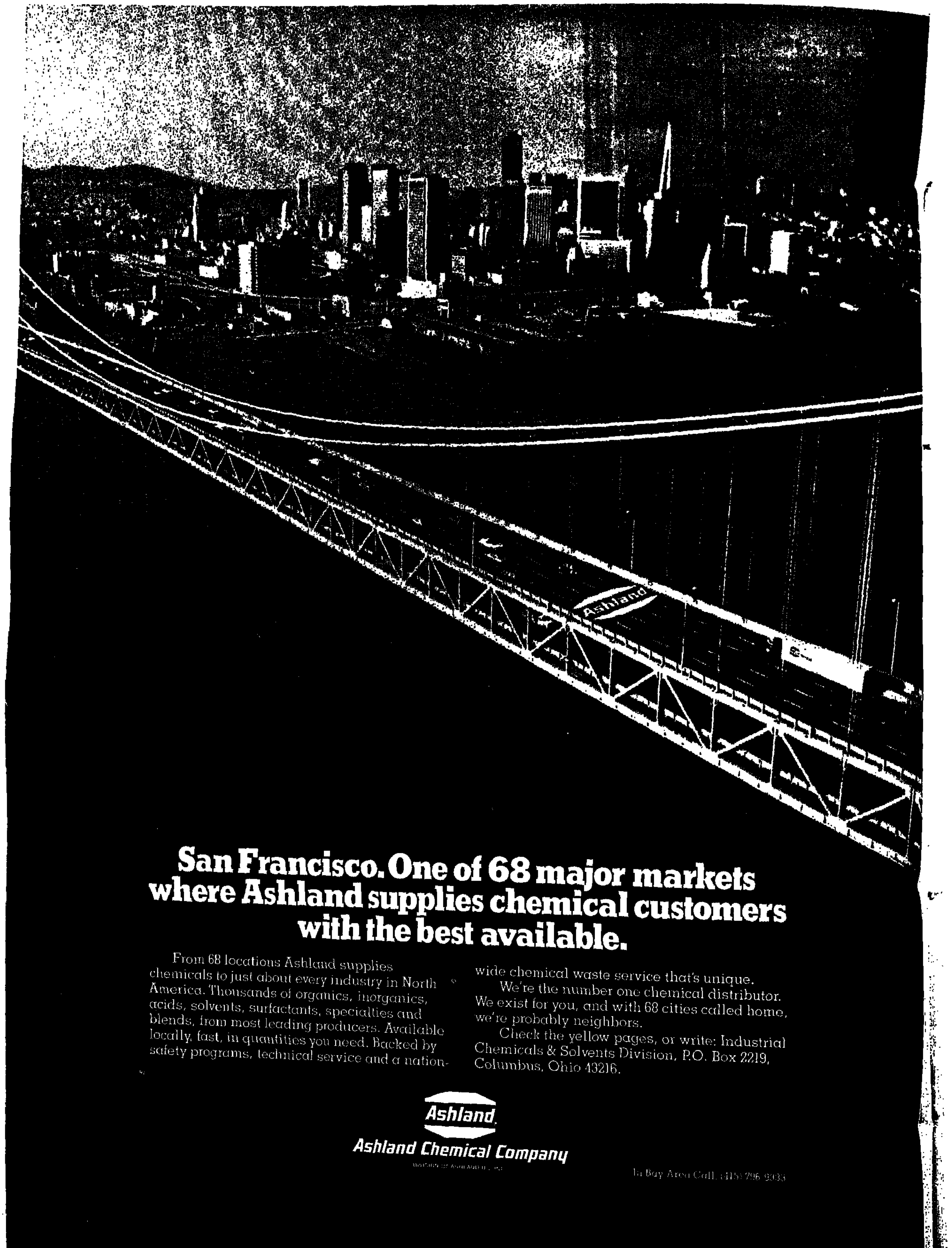
Monsanto Chemical Company's Resins Division last week reported plans to expand by 50 percent its capacity in Europe to produce "Saflex" plastic interlayer. The company also announced that its board of directors at their June meeting approved a major modernization of the company's Trenton, Michigan, polyvinyl butyral resin facility.

The company says these actions, coupled with the recent startup of a new PVB resin facility at its plant in Indian Orchard, Mass., will improve its ability to meet the growing demand in North America and Europe for "Saflex" for use in laminated windshields and architectural glazing and strengthen the company's cost and quality position in polyvinyl butyral, the key raw material for "Saflex."

"The successful startup of our new polyvinyl butyral resin plant at Indian Orchard provides Monsanto not only with a significant increase in our raw material supply for "Saflex," but also the capability to produce "Saflex" with a greater range of performance attributes," W.H. Slowikowski, a Monsanto Chemical Company vice president and general manager of the Resins Divisions, says.

"With an additional capacity of more than 20 million pounds, the new facility at Indian Orchard augments the PVB resin capacity already in place there as well as at Trenton, Mich., and Antwerp, Belgium," he added.

"The planned European expansion will add a second production line for 'Saflex' to the facility at Ghent, Belgium. This is the next phase in an ambitious program the company has implemented to strengthen Monsanto's position as a worldwide leader in this important business," Mr. Slowikowski notes. The planned capacity expansion for the product will employ advanced sheet forming technology, including the company's NCF gradient process.



News Capsule

Haber Forms Division

Haber Inc., Towaco, N.J. has formed a new EMP electrochemical Division as part of an organizational and management realignment. The new division will direct Haber's activities in developing and transferring instrumentation and separation technology to the pharmaceutical, biomedical, chemical and electronics industries. Robert W. McPherson has been appointed general manager of the new unit.

Chevron, ICI in Accord

Chevron Chemical Company and ICI Americas Inc. have reached a tentative agreement to terminate Chevron's rights to distribute paraquate in the US. Chevron's Ortho Agricultural Chemicals Division has marketed the non-selective herbicide here since 1966 as ICI's licensee. ICI Americas has also sold paraquate in the US for the last two years under the trade name "Gramoxone." ICI discovered the product over 25 years ago.

NL Court Decision

The US District Court for the Southern District of New York has reserved decision on the Simmons Group motion for a preliminary injunction against implementation of NL Industries Inc.'s preferred share purchase rights plan. The court denied NL's motion for a temporary restraining order requiring the Simmons Group to extend the expiration and withdrawal dates of its tender offer.

C&K Treatment System

Crompton & Knowles Corporation has installed a new control system to increase the quality of effluent discharge at its Gibralter, Pa., dyestuff plant. The "Pact" process, licensed through Zimpro Inc., adds powdered activated carbon to the plant's existing extended aeration biological oxidation lagoon.

Neste Chemicals Acquires

Neste Chemicals of Finland has acquired a majority interest in Busink Plastics BV, the Benelux-based trading house. In addition to the Benelux office, Busink also has marketing companies in Hong Kong and Vancouver.

Mobay Expands Capacity

Mobay Corporation plans a two-stage expansion of a plant in Baytown, Tex., which produces aliphatic polyisocyanates used in high-solids, high-performance coatings. The project will focus on increasing production of hexamethylene diisocyanate and HDI-derived polyisocyanates.

C-E Licenses Software

Combustion Engineering Inc. will develop a computerized plant design system based on software licensed from Imperial Chemical Industries PLC. C-E will jointly develop the new system with Duke Power Company. The license agreement allows C-E to use, develop and market ICI's computer software for industrial plant design.

Alcoa Restarts Units

Alcoa says it will restart primary aluminum capacity at Rockdale, Tex., and Wenatchee, Wash., to balance metal supplies against current demand levels. At Rockdale, one line will be restarted, bringing to five the number of lines operating, out of a total of eight. Wenatchee will return to full five-line production.

Coastal Litigation

Coastal Caribbean Oils & Minerals Ltd. will use proceeds from a stock offering to fund the legal expenses of its Coastal Petroleum company subsidiary, which has damage claims pending against seven phosphate producers in Federal court in Florida.


William B. Hirsch, who has been appointed vice-president and general manager of a newly-formed polyester division by Goodyear Tire & Rubber Co.

Agent Orange Vietnam Study Seen In Trouble

A study of the effects of Agent Orange on Vietnam veterans, delayed more than six years, is in jeopardy because of incomplete military records, a top Federal health official told Congress last week.

Dr. James O. Mason, director of the Centers for Disease Control, told a House Veterans Affairs subcommittee that serious questions about the scientific credibility of the study have been raised because of incomplete information about how much exposure servicemen received while in Vietnam.

But he said the project has the "highest priority" at the CDC, despite the delay.

Dr. Mason said records reveal where ground troops were during the spraying of Agent Orange, but do not give a precise location of individual soldiers needed to determine the degree of exposure and make the study scientifically valid.

Electronics Mart Is Hiking Need For Chemicals

US demand for electronic chemicals and materials will reach $6 billion by 1991, according to a new study. Historically, the electronics industry has experienced tremendous growth in terms of the demand for finished systems, components, and the related chemicals and materials required to make such products.

While 1984 was an exceptional year in the industry, 1985 resulted in a significant downturn in each segment of the business, Charles H. Kline & Co., of Fairfield, N.J., says. The severity of this downturn was primarily attributed to a buildup in semiconductor inventories by electronic system producers and semiconductor fabricators.

This year began with the hope that this disastrous downturn was over. With half of the year gone, suppliers have begun to see some signs of a recovery with a slight pick-up in chemical orders and a shortening of semiconductor order lead times. However, only a modest increase in demand has resulted in a

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Vaccine Rescue Bill Urged on Congress

Representatives from the medical profession are urging Congress to take immediate action on a proposed vaccine compensation bill designed to avert a crisis in the nation's immunization program.

The drug industry says it, too, will back the legislation if some modifications are made.

Sponsored by Rep. Henry Waxman (D-Calif.), the bill would set up a Federal compensation program to pay children injured by vaccine side-effects. The no-fault system is an attempt to limit the number of lawsuits against vaccine manufacturers.

Drug companies say the threat of liability judgements has been driving up the cost of vaccines and has forced several pharmaceutical companies to drop out of the market, threatening the availability of vaccines that prevent deadly diseases.

Martin H. Smith, president of the American Academy of Pediatrics, told the House Energy & Commerce subcommittee on health that while three producers of childhood vaccines remain in the market, "the costs of these products have soared. The crisis has shifted from one of supply to one of affordability."

Several months ago, the two manufacturers of the DTP vaccine, Lederle Laboratories and Connaught Laboratories, nearly quadrupled their prices by the addition of an $8 per dose set-aside to cover potential liability. As a result, Dr. Smith noted, parents are directly subsidizing an $80 million liability reserve fund, an amount that exceeds what we spend as a nation for the entire childhood immunization program.

"The high costs of vaccines are forcing some families to opt for the "free" vaccines at public clinics. We anticipate a significant shift of patients from the private to the public sector this year," Dr. Smith said.

He said public health facilities have neither the funding nor the personnel to satisfy the increased demand for immunizations. Further, the government will be forced to pay increased vaccine prices early next year when the contracts under which they currently pay much lower prices expire.

"Necessary immunizations are rarely covered by insurance and are paid as an out-of-pocket expense. The simple truth is that many families who may not be able to afford the escalating costs of vaccines may delay protection against disease," said Dr. Smith.

As a consequence, he said the ongoing cost crisis is tantamount to a crisis of supply with

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Intellectual Property Rights

The Reagan Administration accused some developing nations Thursday of engaging in "intellectual property" theft by failing to protect US patents, trade marks and copyrights on a wide range of products, including chemicals and pharmaceuticals.

Many third world countries follow misguided strategies for development, says Harvey E. Bale, assistant US trade representative. He says these countries can produce goods cheaply because their wages are low and that they try to increase that advantage by making the latest know-how available to their factories at low prices.

"Often this means tolerating the appropriation of foreigners' intellectual property rights, without compensation," he says.

Although the official did not name any country in written testimony submitted to a House Foreign Affairs subcommittee on economic policy, Mr. Bale subsequently told the panel Singapore is the major problem for US industries that attempt to protect their products with copyright laws.

He added that he expects Singapore to pass a law later this year that would protect US material.

In Taiwan, loopholes in the laws and their enforcement have caused major problems in recent years. He said Taiwanese laws on evidence are insufficient to prosecute violators of patents and copyrights, that only the process of producing chemicals can be patented in Taiwan, and there is no way to get patent protection for a biologist who develops a new micro-organism.

Arco Chemical Plans to Sell Marginal Parts of Its Operation

Arco Chemical Company last week said it will "embark on a more focussed strategic direction" by expanding its surethane and polystyrenic businesses and spinning off marginally profitable operations that account for about 20 percent of its $2 billion annual sales.

On the block are a building products unit, the ChemLink Group (oilfield chemicals and water treatment services) and specialty chemicals and advanced materials. These will be separately organized from Arco's other activities and offered for sale.

Arco will retain its oxygenated products, oxygenated fuels, styrene and industrial chemicals, propylene oxide derivatives, specialty chemicals related to propylene oxide production, polystyrene resins and foams, engineering resins and foams and wallframe building systems.

"This new strategic direction," says Arco Chemical president Harold A. Sorgenti, "will allow us to concentrate our financial and human resources on the parts of our business that have the greatest potential for profitable growth over the next several years. We will be a more streamlined company; better able to pursue the very significant opportunities that exist in oxygenated and polystyrenics and thus will become more profitable."

Arco manufactures propylene oxide at facilities in the US, Europe and a joint venture in Japan. A $300 million facility is under construction in Southern France and will be completed in 1988.

Tertiary butyl alcohol, a major coproduct of propylene oxide, is the basis for the company's oxygenated fuels business, notably MTBE and "Oxinol" octane enhancers marketed to gasoline refiners.

Styrene products include polystyrene monomer, "Dylene" and "Dylite" polystyrene resins and foams, as well as "Dylark" styrene copolymer engineering resins and proprietary products.

Monsanto Sale

Monsanto Company completed the sale of its Texas City, Tex. petrochemicals plant to Sterling Chemicals, Inc. for $160 million. Monsanto group vice-president Earle H. Brasfield said once the value of plant inventories and other related assets is fixed, the cash proceeds from the sale will total about $200 million. Sterling Chemicals is a newly-formed corporation organized by the Sterling Group, Inc., a Houston-based investment firm that specializes in leveraged buyouts.

OILS, FATS & WAXES

Peanut Crop Hurt by Drought; Oil Faces an Uncertain Future

The drought hitting the Southeast could reduce the peanut crop by 15 to 40 percent, according to industry analysts. Most expectations are running closer to 20 to 35 percent. How this will affect the peanut oil market is still unclear, however, because the hot, dry weather could increase the percentage of peanuts for crushing while reducing the edible crop.

The region affected by the drought includes 75 percent of the peanut growing area, with Georgia's crop being especially hard hit. The estimates of crop damage are, at this point, preliminary speculations, sources caution. While the drought has killed some crops in the fields, much of the damage is expected to be in the form of under-development of the peanuts, something which cannot be judged until they are pulled out of the ground during the harvest.

Another major concern among people in the peanut industry is quality. Hot dry weather often results in a decrease of edible grade peanuts. Segregation 3 peanuts, referring to the inedible grade, are produced in relative abundance during drought conditions, something which may benefit peanut oil producers.

One major cause of the increase in inedible peanuts is boring insects. These insects, seeking moisture, bore a hole into the peanut shell, allowing a toxin-producing mold spore to enter the shell through the hole. This renders the peanut inedible.

TOXIN HARMS MEAL

Since the toxin stays with the meal during crushing, the meal is designated non-feed grade. The oil, however, free of the toxin, remains suitable for human consumption.

It will not be possible to estimate the proportion of segregation 3 peanuts until harvesting begins, which will be the middle of August. If the proportion is high, as it was during the drought of 1980 when it reached 12 percent of the total crop, the peanut oil market is likely not to suffer greatly relative to the peanut industry as a whole. Average levels of the segregation 3 peanuts following the 1980 drought were near 4 percent.

The peanut oil market has stayed essentially firm since the price was driven up about two weeks ago owing to fears about the crop damage. The market is experiencing a slow period at the moment in terms of demand, but this is considered both temporary and normal. Generally, large quantities of the oil are bought over a short time, followed by a period of low activity. Business should pick up in a couple of weeks, according to a brokerage source.

Suppliers have been in "no hurry to sell," an industry source says, in light of the definitely reduced upcoming crop. Prices are certain to be affected when the industry gets a clearer idea of the extent of the crop damage, and of the quality of the peanuts, which will not be until after the harvest is well underway. In the meantime, peanut oil pricing is expected to remain firm, with fear of a severe short crop making any weakening in the market unlikely.

VEGETABLE OILS

OLIVE OIL — Spain is currently fighting the imposition of additional charges on its olive oil leveled against it by the Common Market. Spain is complaining to the Market in Brussels that the additional 35c. per kilo that they must charge when exporting the oil to countries outside the Common Market is giving an unfair advantage to Italy, sources say. Thus far, Spain has resisted paying the added charge.

Prices are quoted between $172 and $178 per 100 kilos of Spanish virgin material, and between $174 and $180 per 100 kilos of Spanish Riviera grade. Prices have been slowly rising, with a weakening dollar expected to be a contributing factor in another small rise in price before it levels out, a source says.

Expectations of a large Spanish crop and an accompanying reduction in price is contributing to sluggish demand in both the US and world markets, according to industry sources. An anticipated drop-off in Italy's production of the oil should be offset by increases in production in Spain and Turkey, according to the Foreign Agricultural Service.

FATS & GREASES

TALLOW — The pricing on tallow moved up last week by about ½c. The market is being called steady, with continued firmness expected.

Quality of tallow has reportedly been a concern lately. Some reduction in quality has been seen in the market lately, due partly to hot weather in the Midwest, which has caused a higher acid content to be found in the tallow, a source says. This has been described as a usual seasonal situation.

Another problem is the relative abundance of dairy tallow on the market. In an effort to reduce the dairy milk surplus on the domestic market, department of Agriculture implemented the dairy Termination Program on April 1 of this year. The government is buying dairy cows to be designated either for

PRICES TRENDLINES

WEEK ENDING AUGUST 1, 1986

CHANGES/UP

Cottonseed, 41% bulk, Memphis, $5 per ton
Grease, white, choice, tanks, dlvd., NY, ½c. per lb.
Grease, yellow maximum 10%, ffa tanks, ½c. per lb.
Peanut, 50% bulk, SE, $5 per ton
Tallow, inedible, fancy tanks, dlvd., NY, ½c. per lb.
Tallow, inedible, bleach, tanks, dlvd. NY, ½c. per lb.

CHANGES/DOWN

Coconut oil, NY, .25c. per lb.
Cottonseed oil, Valley, ½c. per lb.
Soybean, 44% bulk, Decatur, $1.20 per ton
Soybean oil, Decatur, .7c. per lb.

OILS, FATS INDEX

The Oils, Fats & Waxes index reflects the prices of 11 representative materials in this sector and the quantity of each produced in 1985.

Aug. 1, 1986	83.30
July 25, 1986	84.54
July 3, 1986	80.74
Aug. 2, 1985	87.26

Chemical Prices Start on Page 32

FRIDAY SPOT PRICES

MARKET CLOSE AUGUST 1, 1986

CRUDE VEGETABLE OILS

Coconut oil, NY	lb.	.13½
Coconut oil, Pacific	lb.	NA
Corn oil, Midwest	lb.	.17
Cottonseed oil, Valley	lb.	.17
Linseed oil, Minneapolis	lb.	.29
Palm oil, NY	lb.	.14½
Peanut oil, Southeast (restricted)	lb.	.30
Soybean oil, Decatur	lb.	.1530

REFD. VEGETABLE OILS

Coconut oil, t.w., NY	lb.	.18½
Corn, jumbo tanks	lb.	.24
Cottonseed oil, jumbo tanks, NY	lb.	.2650
Peanut oil, jumbo tanks, NY	lb.	.3880
Soybean salad oil, NY	lb.	.1980

OILMEALS

Cottonseed, 14% bulk, Memphis	ton	$135
Linseed, extracted, 34% bulk, Fargo	ton	$100
Peanut, 50% bulk, SE, Alabama	ton	$170
Soybean, unrest., 44% bulk, Decatur	ton	$160.60

FATS & GREASES

Grease, white, choice, tanks, dlvd., NY	lb.	.8½
Grease, yellow maximum 10%, ffa tanks	lb.	.8½
Lard, loose, bulk tanks, dlvd., Chicago	lb.	.16½
Tallow, inedible, fancy, tanks, dlvd., NY	lb.	.10¼
Tallow, inedible, blch., tanks, dlvd., NY	lb.	.9¾

OILS, FATS & WAXES

slaughter or for export, with the objective being to eliminate up to 7 percent of the dairy herd. So far, they have slaughtered 650,000 cows, according to Department of Agriculture figures.

The result in the tallow market is an unusually large amount of the yellower, less desirable dairy tallow, a source says.

Export of US tallow is said to be down, making it unlikely that the price will rise any higher in the near future. Competition from lower-priced coconut oil and palm stearine oil is said to be undercutting tallow in the world market.

FATTY ACIDS

TALL OIL — Union Camp Corporation says that it has dropped its prices on tall oil fatty acids (TOFA) by 2c. to 3c., and its distilled tall oil (DTO) prices by 2c. The price changes are effective July 21, following Hercules Incorporated's price changes of July 15.

Samples of the Union Camp price changes are "Unitol AFL" currently listed at 22c., and "Unitol DSR" at 20½c. New DTO prices include "Unitol DT 40" at 19c., and "Unitol DT 25" at 20½c.

The weak TOFA market is blamed on stiff competition from low-priced vegetable oils, the fatty acids from which are largely interchangeable with TOFA. Production of TOFA has risen to 114,000 tons for this year, 5 percent over last year's figure. Stocks, meanwhile, have leaped from last year's amount of 8,500 tons to this year's figure of 30,300 tons, according to Pulp Chemical Association figures. Pricing on both TOFA and crude tall oil are expected to decrease further before leveling out.

MISCELLANEOUS

COCOA BUTTER — The cocoa industry was surprised last week when a meeting of international cocoa producers came to an agreement. Although they have yet to formally announce the details of the agreement, it is said to be a buffer stock arrangement, with an established floor price of 85c. per pound.

The agreeing countries, including the Ivory Coast, Brazil, Ghana, and Nigeria, will work through a third-party buffer stock manager, a position already in existence, according to an industry analyst. When the price deviates from the median price of $1.03 by 18c., the buffer stock manager will intervene to balance the market. When the price falls to 85c., he will buy the participating countries' cocoa from traders, in proportion to the individual countries' production levels. When the price rises to $1.21, he will sell from the buffer stock to the world market.

The prices on cocoa butter, reflecting the surprise felt at the co-ordinated agreement, have risen to the $2.05 to $2.10 range. Supply is being called plentiful relative to demand. Prices are expected to weaken by winter or before, since the buffer stocks will take a while to build.

DES Suit Filed In New York State Under a New Law

Three women who claim their health or children were damaged by the anti-miscarriage drug DES sued the drug's manufacturers Thursday, taking advantage of a day-old law.

The women filed suits totaling $95 million against seven drug manufacturers. The suits, filed in the New York Supreme Court, detailed the problems allegedly caused by diethylstilbestrol, which was marketed until 1971.

The women, who sued under a law signed Wednesday by Gov. Mario Cuomo, alleged the companies knew in 1947 the chemical was useless and unsafe for its intended purpose of preventing miscarriages.

Instead, they said, it caused cancer in users and physical malformations in their children.

One woman said her 5-year-old daughter has undergone several eye operations; wears leg braces and has a damaged nervous system. She was born premature at birth and weighed one pound.

Fiber Accord Ratified by US; 'Cave-In' Seen

The US renewed a worldwide fiber agreement Friday to provide "the maximum possible protection for the American textile worker," but leading lawmakers said the administration "caved-in" to foreign pressure.

Sen Strom Thurmond (R-S.C.), promptly called for the Senate to override President Reagan's veto of a tough protectionist trade bill that covers textiles

US Trade Representative Clayton Yeutter said the overall agreement with more than 1 trading partners came early Friday in Geneva and closes most loopholes in the previous part that allowed Asian producers to export clothes made of fibers not subject to duties

"This agreement is worth a lot of money to US textile producers, Mr. Yeutter said.

The multifiber agreement is an umbrella agreement setting no numerical limits but provides the framework for negotiating separate deals between individual countries.

Deputy White House press secretary Larry Speakes said, "By renegotiating the MFA, we have provided the maximum possible protection for American textile workers without sacrificing jobs in our healthy export industries or overburdening American consumers."

The "sledgehammer approach" of the bill President Reagan vetoed, by contrast, said Mr. Speakes, would cost consumers an extra $44 billion for clothing in the next five years because it would keep out cheaper imports

John Gregg, chairman of Avtex Fibers called the MFA renewal "an atrocity afflicted on the textile and apparel industry.

"What our trade negotiators have done is a betrayal of the American public and the industry they were to represent. It's bad enough that our trade representatatives failed so poorly, but when they attempt to disguise their failure as a success, it's a shameful deceit of the American public," Mr. Gregg said.

Mr. Yeutter said the pact closes loopholes for new fibers not previously covered, allows the US to impose unilateral restraints for two years in the case of import surges and contains anti-counterfeit provisions.

'Green Book' Advertisers

Advertisers in the OPD CHEMICAL BUYERS DIRECTORY ("Green Book"), sister publication of CHEMICAL MARKETING REPORTER, advise us that they are being solicited by Associated Business Directories of Winter Springs, FL, to advertise in that concern's Commercial Chemical Directory for 1987.

Accompanying its invoice-like statement, which the company insists is not a bill, is a tear sheet of the advertiser's insertion in the 1986 edition of the OPD CHEMICAL BUYERS DIRECTORY.

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AROMATIC ORGANICS

Phthalic Pricing Is Firming Up, But Ortho Contracts a Problem

Phthalic anhydride producers say the third quarter industrywide 2-cent-per-pound price initiative is sticking, although one producer, with contracts for major customers tied to stable feedstock orthoxylene pricing has been unable to raise its price on those accounts.

Exxon Chemical Americas' contract arrangements have been "a problem for everybody," comments one rival producer. However, the market "has really snugged up" over the past several weeks, and this has quieted customers' protests somewhat.

"Demand in the second quarter pretty much exceeded supply," observes another producer, thus bringing the industry "pretty much into balance" at the new price level.

As evidence of the tighter market conditions that have developed, he says that in recent months two rivals' minor production problems provoked considerable concern among some of their customers.

"The industry seems to have come around a great deal," he concludes, as the past couple years' downturn in industry capacity is being felt. Current capacity is rated at 1.075 billion pounds, as compared with 1.515 billion pounds two years ago.

PACE OF ORDERS

One producer says that, even though customers bought heavily just prior to the implementation of the new price level, the pace of orders since the price increase has been satisfactory.

Out of the June to September period, he says, demand usually is slow for one or two months, but has yet to be slow this year. Last year, demand during "the first half was significantly better than the second half, but this year the second half seems to be picking up," he adds.

The outlook for the major end markets — plasticizers, polyester resins, and alkyd resins — is said to be healthy. With 1986 seen by producers as a breakeven year after several years of losses, one comments that 1987 "should be profitable."

Exxon's situation could be different next year, as it is believed that its major contracts are signed on an annual basis. "Exxon would have enjoyed the price increase but couldn't," claims one producer.

It is observed that most or all other producers "have eliminated very low ortho-plus contracts," since these "don't give you any room to raise prices when the market gets tight." Though other contracts in the industry are said to involve orthoxylene pricing, they do not guarantee a certain differential.

Another producer says that he has "seen no evidence that (Exxon) has raised prices on major accounts (even though) the company's plant is more than sold out" and the company has been obtaining supplies from a coproducer. It is believed that the sum of Exxon's major accounts is approximately 40 million pounds per year.

The trade balance for phthalic anhydride is seen by producers as another important element in the market. One producer attributes a large measure of the price increase's success to a recent lessening of import pressure and a pickup in exports.

The level of imports in May fell below 1 million pounds for the first time since last October, while exports for the month reached their highest level since last July.

A producer believes these figures indicate a trend associated with the declining value of the US dollar and strong demand from the Far East. South American and European exporters are said to have less material to send to the US since they are shipping large quantities to the Far East.

PRICES TRENDLINES

WEEK ENDING AUGUST 1, 1986

CHANGES/UP
None

CHANGES/DOWN
None

AROMATICS INDEX

The Aromatic Organics Index reflects the prices of 14 representative materials in this sector and the quantity of each produced in 1985.

August 1, 1986	167.84
July 25, 1986	167.84
July 3, 1986	167.84
August 2, 1985	167.84

Chemical Prices Start on Page 32

FD&C COLOR OUTPUT

APRIL TO JUNE

		3RD QTR. 4-1/6-30	CUMULATIVE 10-1/6-30
FD&C PRIMARY			
FD&C Blue No. 1	lbs.	31,712.2	182,998.2
FD&C Red No. 3	lbs.	55,080.6	221,799.3
FD&C Red No. 40	lbs.	621,764.9	2,045,868.3
FD&C Yellow No. 5	lbs.	326,221.3	1,248,326.3
FD&C Yellow No. 6	lbs.	524,195.9	1,182,295.2
FD&C—LAKES			
FD&C Blue No. 1	lbs.	17,441	72,721.8
FD&C Red No. 3	lbs.	75,789.5	166,876.1
FD&C Red No. 40	lbs.	22,545.8	170,887.6
FD&C Yellow No. 5	lbs.	238,810.9	943,546.4
FD&C Yellow No. 6	lbs.	120,419.4	272,845.2
D&C—PRIMARY			
D&C Green No. 8	lbs.	6,780	16,276
D&C Red No. 21	lbs.	2,547	5,234
D&C Red No. 28	lbs.	1,250	4,953
D&C Yellow No. 8	lbs.	—	1,653.6
D&C Yellow No. 10	lbs.	8,582.3	19,426.1
D&C—LAKES			
D&C Red No. 6	lbs.	28,073	73,033.3
D&C Red No. 7	lbs.	50,531.9	152,360.8
D&C Red No. 27	lbs.	15,697	35,004
D&C Red No. 30	lbs.	1,228.2	18,194.6
D&C Yellow No. 10	lbs.	11,448.1	50,451

Source: Department of Health & Human Services Food & Drug Administration.

AROMATICS

industry and the Gulf region, and heavy import levels.

Producers quote a list price level of $1.25 per gallon, with selling prices said to be at $1 per gallon. One producer says that the market price a year ago was $1.13 per gallon.

Railroad tie treatment is the major outlet for creosote, but the railroad industry is depressed due to the nation's declining industrial output. As a result, some lines, particularly in the Midwest and West, are said to be curtailing their maintenance expenditures in an effort to reduce overall costs. One major railroad line has reportedly cut $40 million from its maintenance budget.

In addition, it is noted that, because creosote is registered as a pesticide, some railroads are turning to alternative products in order to avoid the complicated "regulatory environment."

Falling oil prices have had a strong negative impact on the Gulf region's economy, and have resulted in major spending cutbacks by states in the area. The stretch from Mobil, Ala. to Houston, Tex. is known as the "creosote belt," says a producer, since the moist, swampy conditions make it necessary to treat wood for it to last. Business in this region is said to be the slowest in ten years.

MDI — Two producers of diphenylmethane di-isocyanate say the market is very tight and demand is strong. It is believed that three of the four producers are running virtually flat-out, the exception being Dow Chemical USA.

An 8c. per pound first quarter price initiative became a 4c. per pound actual increase last quarter when Dow imposed a 4c.-per-pound temporary voluntary allowance. "The rollback of the price was initiated by Dow, and everybody followed," one producer comments.

Dow has some excess capacity, competing producers say, and any recovery of the 4c. per pound taken from the price initiative is seen as depending heavily on them. Dow is the newest of the MDI producers, having purchased its facility at La Porte, Tex. from Upjohn Company last year.

An aniline supplier last month similarly observed that three of the four MDI producers were running very hard, and commented that this was contributing to tightness in the aniline market. MDI producers say they have encountered some pressure from aniline producers looking to raise prices. It's felt any increase in aniline would have to be passed through to MDI since margins are extremely thin already.

Producers quote list price levels of 91c. per pound for polymeric MDI and $1.28 per pound for pure material.

PRICE HIGHLIGHTS

AROMATICS IN JUNE

		CONTRACT (US $)	SPOT (US $)
Aniline	lb.	.33	.24-.27
Benzene	gal.	.80-.76	.69-.77
Cumene	lb.	.13¾-.13¼	.13¾-.13¼
Cyclohexane	gal.	.95125-.94125	NA
Phenol	lb.	.22	19.5
Styrene	lb.	.18	16.5
Toluene	gal.	.67-.73	.60-.72
Xylenes, mixed	gal.	.80	.75-.83

OMB Budget Cut by House; Veto Possible

The House Appropriations Committee voted last week to eliminate funding for the White House budget office's regulatory review staff and to prevent the activity from being sheltered within another agency's budget.

Several House chairmen have been leading an effort to cut off the staff's funding on grounds that Office of Management and Budget is exceeding its authority by second-guessing the decisions of regulatory agencies, such as Environmental Protection Agency and Occupational Safety and Health Administration.

OMB Director James C. Miller threatens to recommend a veto of the $13.8 billion Treasury, Postal Service and general government appropriation because of the fight over the $5.4 million for the office.

"The denial of funds for the Office of Information and Regulatory Affairs constitutes an unacceptable restriction on the executive branch's constitutional prerogatives and responsibility to oversee regulatory affairs," Mr. Miller said.

OIRA has been under fire from powerful House members, including Reps. John Dingell (D-Mich.), Jack Brooks (D-Tex.), and Jamie Whitten (D-Mass.), because of its lead role in the Reagan Administration's war on excessive rules and regulations.

A key part of the attack is a White House requirement that agencies submit proposed regulations to the office for review before they can be formally issued.

Monsanto Sheds

Continued from Page 5

activator, discovered by Monsanto in collaboration with researchers at Oxford University, is believed to have greater specificity than others now under study, and should also be marketed late in the decade.

The biotechnology-derived product, designed for treatment and prevention of blood clots associated with heart attacks and other cardiovascular diseases, would be produced by Invitron Corporation and marketed by Monsanto's G.D. Searle & Co. subsidiary.

The Monsanto executive says he is hopeful there will be more arrangements such as the one concluded late last month with Sandoz Crop Protection Corporation under which the two companies will use each other's herbicide active ingredients in the development and marketing of new, cost-effective herbicide formulations (CMR, 7/21/86, pg. 4).

He says the company wants new products to extend its agrichemicals line and will do it through licensing and exchange if that is the way to go. Mr. Harbison says Monsanto will work with more small products in the $10 million to $100 million range.

Monsanto is continuing to push for markets internationally, Mr. Harbison says. In the first six months of this year, international sales accounted for 25 percent of profits and have at times in the past accounted for as much as 40 percent. "Europe, alone, is over a $1 billion market for us," he says.

Monsanto Polymer Alloys

Continued from Page 7

went into commercial production at Monsanto's Addyston, Ohio, plant in late 1985 and are available now in two injection molding grades as "Triax" 1125 (nylon 66-ABS) and 1120 (nylon 6-ABS) at $1.70 and $1.75 per pound in truckload quantity, respectively.

While more expensive on a per pound basis, in-use cost of 6.5 cents to 6.7 cents per cubic inch is more indicative of where the materials fit into the market.

In the lawn and garden market, Mr. Khanna says the products have a 20 to 25 percent cost advantage over glass-filled nylon or polycarbonate and make possible production of much tougher parts that are more finished in appearance.

Injection molding grades are currently being used in power tool applications, tool handles and housings for lawn blowers, while the products are being considered for vacuum impellers, lawn mower decks and non-automotive applications. In lawn mower decks, now made of metal, Mr. Khanna says he believes the "time is right" for conversion to plastics.

Down the road, Mr. Khanna says potential automotive applications include wheel covers, mirror housings and interior applications. Electronic applications wil involve hinged connectors and sporting goods applications are being developed in ski boots and safety helmets.

Unlike nylons, which can't be thermoformed and are difficult to blow mold, the new alloys can be blow molded, extruded and thermoformed and are expected to find market niches in chemical resistant packaging and other industrial applications.

All of this adds up to a potential market for 30 million to 50 million pounds of product for non-automotive uses and automotive applications would add "several million pounds" to this total, the Monsanto executive says.

Formal introduction of the new series by Monsanto last week comes barely a month after the company brought out its "Lustran Elite" low-gloss ABS for automotive applications (CMR, 6/30/86, pg. 4).

"That development demonstrated for us in spades the need for an applications approach to the market rather than the historical 'products' focus of the past," says Dr. Philip Brodsky, director of technology for the company's plastics division in Springfield, Mass. "It led to our first new plant for a specific (market) need," he says.

Similarly, with "Triax" the company says the 1000 series is the first in a family of market-specific products that will come from the new alloying technology.

The company plans a major new applications laboratory in the Springfield area, to be announced later this Summer, Dr. Brodsky says, that will be focussed toward quick response to customer needs.

It's felt alloy technology is the rapid route to customer requirements, since "you can design virtually overnight," Dr. Brodsky says. He points out that alloys can be developed from existing polymers in as little as two years time at relatively low cost in comparison with the six to 10 years and heavy investment traditionally required to develop a new polymer line commercially. Finally, the use of alloying technology means "we're not limited to a single product or to polymers that we make," Dr. Brodsky says.

As a class, alloys and blends currently represent about 10 percent of the total volume of all plastics, with a current US volume of about 3 billion pounds. However, they also have the highest potential growth rate estimated at 10 to 17 percent annually versus 3 to 5 percent for all plastics.

Celanese Claims

Continued from Page 7

tics. The company plans to open a technical development center in Detroit by 1987, to include not only design and analytical laboratories with computer-aided design facilities, but also injection molding equipment and a parts testing lab for product evaluation. The firm expects this unit to be operating commercially by the 1988 model year.

Trademarks were also announced. Celanese will now market the long fiber reinforced pellets technology products acquired from the British firm Polymer Composites under its own "Celstran" trademark. It will also market polyimidesulfone (PISO) resins under the "Duratem" trade name. Company spokesmen report that research and development are progressing smoothly.

BioTechnica In Agreement For Know-How

BioTechnica, Ltd., Cambridge, Mass., and Cardiff, Wales, has agreed to apply its patented "fingerprinting" technology to Pioneer Hi-Bred International Inc.'s proprietary organisms used in a silage additive. Pioneer is based in Johnston, Iowa.

In fingerprinting the DNA of Pioneer's organisms, Biotechnica, Ltd. will provide Pioneer with a characteristic pattern for the proprietary strain, which can be used in enforcing patent protection as well as quality control purposes. The particular strains involved are in the *Lactobacillus plantarum* family and are in Pioneer's silnte additive products.

FINGERPRINTING TECHNIQUE

BioTechnica, Ltd.'s fingerprinting technique exploits the minute natural variations that occur in chromosomes of living organisms from which a characteristic fingerprint can be obtained.

The technique includes a method for obtaining the highly discriminating patterns and the ability to quantify the certainty of an organism's identity.

In addition to enforcing patent protection the technique can be applied to identification of organisms previously released in nature and then re-isolated for identification. It can also be used for quality control of organisms that may mutate or otherwise change during production or use.

BioTechnica says that this is the first major contract in this area. The company adds that it has recently completed tests which demonstrate a way of fingerprinting plants as well, and is discussing its application to new plant species with companies in the US and Europe.

ChemClear Wins Treatment Contracts

ChemClear, Inc., Wayne, Pa., says it has received more than $1.3 million in waste treatment contracts in the first seven months of its divestiture into field service operations.

The company, which operates four waste treatment facilities in the Northeast and Midwest, expanded its field activities in January to service industries requiring mobile crews for commercial waste cleanup of lagoons, contaminated tanks and drum storage areas.

Carl Cording, ChemClear's president, says the expanded field service operation has grown continuously since its inception, with July accounting for almost one-third of sales since the beginning of the year. "July has been a breakthrough month for this division," he says. "It is impossible to predict the actual impact field service operations will have on our total revenues, but I see it as a significant factor in 1986 and beyond," he adds.

Cyanide Limits Sought Via Bill

Legislation calling for a review of the easy public availability of cyanide was introduced in Congress last week by Sen. Slade Gorton (R-Wash.), with the backing of the over-the-counter drug industry.

Cyanide is the poison that has been cited in 10 drug tampering deaths and five suicides involving non-prescription drugs as well as a rash of recent food tampering threats.

"We have been asking that attention be focused on the lack of distribution and marketing controls for this deadly poison," says James D. Cope, president of the Proprietary Association, a trade group representing makers of non-prescription medicines.

Sen. Gorton's bill calls for a review by Environmental Protection Agency of the manufacture and distribution of cyanide.

"We commend Sen. Gorton for taking the lead on this important issue," says Mr. Cope.

Tax Shift Hit By Senate Side

Senate tax writers reacted negatively last week to a new proposal from House negotiators for a multibillion-dollar increase in corporate taxes, saying the plan could derail efforts to draft a final version of tax-overhaul legislation.

"It is questionable whether we will have a bill," said Sen. John Danforth (R-Mo.), as he entered a closed meeting of the Senate bargainers to discuss the House plan.

"I don't consider it a proposal," added Sen. Malcolm Wallop (R-Wyo.).

The strong reaction appeared, however, to be aimed more at staking out a bargaining position than sending a signal that there are insurmountable problems in reaching a compromise.

House tax writers were expected to formally offer the comprehensive package to the Senate Friday as a counteroffer to a $30 billion revenue-raising plan the senators proposed Tuesday.

House Democrats, who drafted the new package, said billions more than the Senate offer, especially from business, would be necessary before there can be agreement on a compromise version of the sweeping tax legislation passed by each chamber.

Nonetheless, the House was making some concessions to the Senate in the new proposal.

House members want to scale back considerably special tax benefits for the oil and gas industry. They agreed to a greater depreciation allowance for business than the House had originally favored but still considerably less than under the Senate bill.

But initial reaction from the Senate was negative. "I don't think there's any room to compromise with their proposal as I understand it," said Sen. Danforth.

"It would cause great damage to our country — loss of jobs," he said.

ALIPHATIC ORGANICS

Butadiene Values Declining

Continued from Page 7

1985, and 800 million pounds brought in from offshore in 1984. In the 1983 through 1984 period, about 30 percent of US consumption was imported, and most of that offshore material came from Europe.

US markets were in fact a "safety net for European butadiene," the analyst asserts.

The shift to heavy cracking greatly reduced US needs for foreign butadiene, but, he explains, "to maintain market share, the Europeans just kept lowering the price."

The crude oil price plunge has not affected European feed slates as dramatically as US slates. European plants predominantly crack naphtha and the crude plunge hasn't made that dramatic a difference. It's estimated European olefins producers were previously cracking about 85 percent naphtha, and have now moved closer to 100 percent.

Market observers say that additional price declines are possible because of the oversupply situation, but at some point the market will bottom. Clearly, the price can't drop below fuel value of the material.

"European producers are at the point where some might choose to burn it," says an observer, though he adds this hasn't started happening yet. Some companies are recycling the material, however.

European and Canadian producers would be the first to find themselves exploiting butadiene for fuel value as the price declines, since offshore producers have to factor in increased transportation costs, as well as other increased costs associated with selling in distant markets.

If the price falls to between 11 and 12 cents per pound, it's believed many European and Canadian makers would be forced to burn, rather than sell, butadiene. The price would have to drop a bit lower for US makers to find themselves in the same situation.

US companies are reported looking at recycling the material as an option, but the technology is difficult.

CURRENT DEMAND CLIMATE

Assessments of the current demand climate range from "a bit better than last year" to "flat or down slightly."

Styrene-butadiene rubber production is down as of April 1986, as compared to the same period in 1985, while polybutadiene production is flat to up slightly.

Overall, styrene-butadiene rubber, nitrile rubber and polybutadiene consumption of butadiene have declined by 3 percent in the period January through June, 1986, when compared to the same period last year. These end-markets acount for over 60 percent of US consumption of butadiene.

ETHYLENE — Producers report that contract selling prices for ethylene stand at 14c. per pound, about where they were one month ago. "I don't perceive any price increase for July," says one maker, when asked about price hikes that had been sought.

"There are a lot of pounds that haven't been settled," however, the maker says. Producers also tried to raise selling prices in June, with a similar lack of success (CMR 7/7/86, pg. 18).

Customer perception of low feedstock costs is often cited in explaining the stalled ethylene selling price, particularly in light of an improving supply and demand position for the industry. "I think that is the only thing preventing an increase," one ethylene man says flatly.

Meanwhile, demand has been strong, and several sources describe the current market as tight. "There just aren't any extra pounds out there," says a supplier, who also notes that inventory building has not been significant.

He argues that the recent hurricane—Bonnie—helped tighten the supply picture as several US olefins units lost some production time.

Among strong end markets, ethylene suppliers cite polyethylene as performing particularly well.

On the horizon are scheduled turnarounds for maintenance of three large crackers, one in the fourth quarter. This will contribute to a further tightening of the market, producers say.

METHANOL — Price was quoted last week at 30 cents per gallon, Gulf Coast, in contract transactions. While one maker said that some activity may be taking place below 30c. per gallon, another says that his company is taking no contract business below the 30c. level.

The current price is down 2c. from the 32c. level that producers quoted one month ago. One cites basic supply and demand pressures on the price level as the reason for the decline, but a competitor disagrees.

He asserts that behavior of some sellers has more directly to do with the price slippage than the actual ratio of supply to demand in the current market.

This supplier says that not all producers are in an oversupply position right now, but some makers are carrying considerable material they would like to bring to market. These sellers, he claims, do not have established customer bases, and therefore resort to undercutting to move their material.

"Those who have a good mix of captive and contract business are not hurting for volume," he claims.

Another producer says that inventories are high, because the Summer is an off period for cold weather products like antifreeze and windshield wash fluid. He also cites reduced demand for oil field products because of the depression in the domestic oil exploration industry.

Demand is strong, he says, for MTBE, formaldehyde, and acetic acid, which together make up about 80 percent of total methanol demand. While his view of the short-term market is somewhat more pessimistic than his competitor, this producer forsees an improving supply and demand balance at the start of the fourth quarter.

This will arise, he says, from firming demand for seasonal products containing methanol as well as increased demand for MTBE as new capacity for the octane enhancer continues to come on stream.

A competitor points out that the full effect of several temporary shutdowns of Canadian capacity has yet to be felt. He also says a US producer is scheduled to halt production in the third quarter. These capacity adjustments will further improve what is already a fairly favorable supply and demand balance, he says.

PROPYLENE — The price of chemical-grade material is reported at 9¾c. per pound. A polymer-grade producer says that material is selling for 10½ to 11c. per pound.

A chemical-grade producer attributes the price decline from last months' level in part to aggressive marketing on the part of one player in the market.

Another maker forsees an increase in supply of chemical-grade material for the third quarter as a result of the move toward heavy feeds at olefins crackers. "Anybody who has the ability to crack naphtha and gas oils is doing so," he says.

But scheduled turnarounds and the move toward heating oil production will lower output of coproduct propylene, another maker notes.

PRICES TRENDLINES

WEEK ENDING AUG 1, 1986

CHANGES/UP
None

CHANGES/DOWN
None

ALIPHATICS INDEX

The Aliphatic Organics index reflects the prices of 20 representative materials in this sector and the quantity of each produced in 1985.

Aug 1, 1986	222.80
July 24, 1986	222.80
July 4, 1986	222.80
Aug 2, 1985	203.80

Chemical Prices Start on Page 32

PRICE HIGHLIGHTS

ALIPHATICS IN JUNE

		JULY (US $)	JUNE (US $)
Butadiene	lb.	.13	.13½
Ethylene	lb.	.14	.14
Ethylene Glycol	lb.	.18	.18
Methanol	gal.	.30	.32
Propylene	lb.	.09¼	.09½
Vinyl Chloride	lb.	—	.16½

Ground Water

Continued from Page 5

ground water protection across the nation, the report says.

Among the programs reviewed was Connecticut's ground water classification system, which characterizes water based on use and quality.

In Connecticut, potentially contaminating industries and other water-threatening land uses are prohibited from locating in sensitive or valuable ground water areas.

On Cape Cod, Massachusetts' rapid growth and development is threatening the only source of drinking water in the area. Local effors include adoption of health regulations and zoning by-laws to control sources of contamination, the definition and management of recharge areas for public wells and the collection of household hazardous waste to prevent its disposal in landfills.

New Jersey has a unique approach to cleanup and control of hazardous waste that places the responsibility for cleanup on industry before property can be transferred to a new owner, Mr. Cortese said.

The N.J. Department of Environmental Protection has the power to void any sale of property not in compliance with the law. "The program has been controversial and costly to industry but very effective," he said.

The report says some rough estimates show that 1 percent to 2 percent of the country's ground water may be contaminated. More than 225 different chemical, radiological and biological substances have been detected in ground water across the United States.

Since 1984, Mr. Cortese has been a member of the National Resource Council's ground water quality protection committee, which included experts from universities, industry and public interest groups.

The committee recommends that:

- States should consider classifying their ground water through a mapping program that identifies critical areas and resources for special protection.
- Each state should develop a comprehensive program for monitoring and inspecting chemical and petroleum storage tanks.
- States should consider regulatory and economic incentives for companies to develop ways of reducing hazardous waste at the factory.
- The Federal government should provide money for states and localities to develop and implement ground water management programs on the condition that within a certain time frame, the programs are self-supporting.
- States should consider registering and issuing permits for pesticides, as well as banning or restricting the use of pesticides that are most threatening to ground water supplies.

Bioreclamation Budding H_2O_2 Market

Continued from Page 3

gasoline pipeline in Ambler, Pa. in 1971. A Sun Petroleum microbiologist, Richard Raymond Sr., had discovered that hydrocarbon-utilizing microorganisms could be used to degrade the gasoline given the right stimulation. He originally introduced oxygen to the microbes by pumping air below the surface, a technique called air sparging.

Dr. Raymond, who is the founder of Biosystems, found several years ago that hydrogen peroxide is often a far more efficient source of oxygen to the subsurface than air sparging.

FMC says that peroxide can provide 500 parts per million of oxygen to the soil, while air sparging provides only 8 parts per million and pure oxygen imparts 40 paris per million. Up to seven pounds of peroxide may be needed to degrade a single pound of contaminant, according to FMC. Biosystems says 3 pounds of oxygen, equivalent to 12 pounds of H_2O_2 may be required.

The primary source of underground contamination is leaking underground fuel and chemical storage tanks. A recent Environmental Protection Agency study found that perhaps 35 percent of the estimated 800,000 underground motor fuel storage tanks in the US leaked portions of their contents. EPA says perhaps 600,000 other kinds of storage tanks are buried around the country.

Proponents say bioreclamation is rapidly gaining favor as a preferred technology in treating these spills, and argue that existing technologies insufficiently correct the problem of underground hydrocarbon contamination.

Dr. Joan Berkowitz, vice-president of hazardous waste management at Arthur D. Little, Inc. says she prefers the in-situ process over excavation of a contaminated site because "it can get a site clean without risks associated with digging, such as dust."

Bioreclamation also eliminates the need for landfilling the excavated soil, Dr. Berkowitz points out, thereby complying with Federal guidelines to sharply reduce landfill storage, while also eliminating the continuing liability of keeping hazardous materials in landfills.

Another mechanical treatment effort is pumping the contaminated groundwater out and treating it. This method, critics argue, is a time-consuming process, and does not take care of the large amounts of pollutants that adsorb to the soil matrix.

Richard Raymond, Jr. vice president and general manager at Biosystems, recounts that a cost analysis study of an underground residual oil spill in Florida found that pumping the contaminated groundwater out and sending it to a treatment facility would take 60 years to suitably clean the area and would cost $2.3 million (1986 dollars). The same project employing bioreclamation with H_2O_2 as the oxygen source was expected to take two to three years and cost $900,000.

Sources hasten to add, however, that bioreclamation is not a catch-all solution to cleaning up underground pollution. For one thing, soil conditions may not be right. Clay, for example, is not very permeable, Mr. Raymond Jr. says, and it is timely and expensive to move water (with the nutrients and peroxide contained in it) through the ground formation.

Another limiting factor is that the technology is currently only suitable for treating petroleum products and simple petrochemicals like phenols and formaldehyde. Sources say bioreclamation is currently not used to treat complicated hazardous wastes such as chlorinated solvents, PCB's and dioxin.

Furthermore, even advocates of the technology admit that not enough is known about how the bioreclamation process works. Joseph Westwood, business manager for hydrogen peroxide at E.I. du Pont de Nemours & Co., a supplier of H_2O_2 to Biosystems, says more work needs to be done before the process becomes a commercial success.

He says the work is done underground in an uncontrolled environment, and it is difficult to determine what is taking place. He adds, though, that Du Pont believes these problems will be resolved within the next eighteen months, at which point "significant quantities of peroxide will be consumed."

One of the keys to bioreclamation is controlling the reaction of peroxide with bacteria, according to Dr. Richard Brown, technology manager of FMC Corporation's Aquifer Remediation Systems, the company's environmental services unit.

He points out that peroxide, while an extremely efficient source of oxygen for the bioreclamation process, is a mild biocide. He says FMC has learned to control the reaction by using chelating agents as stabilizers to control heavy metal ions and prevent premature peroxide decomposition.

For all its promise, bioreclamation is still in its infancy and relatively few projects are underway, sources say. Mr. Raymond of Biosystems says the industry is currently generating only about $5 million in sales, and Dr. Brown estimates that only "a couple hundred thousand pounds" of peroxide are currently used in this field.

Yet they and others say interest in the technology is rapidly growing among underground storage tank owners, oil refiners, chemical firms, and state and Federal environmental authorities.

If the state and Federal governments push owners of leaking tanks into taking quick and effective remedial action, Mr. Raymond estimates the business may surge to $100 million in sales within four years. Dr. Brown says a "very conservative estimate" would place the demand for peroxide in bioreclamation at 10 million pounds a year in the next three to five years.

At this stage, though, a noticeable lack of Federal and state initiative in addressing the problem of underground pollution from storage tanks is what's holding the industry back, according to Michael Dodson, application service manager for Houston-based peroxide producer, Interox Americas, Inc.

He says underground gasoline spills will develop into a major environmental issue over the next decade, and the government will partly determine how quickly the market for remedial action will grow.

EPA is currently studying the issue under the auspices of its Office of Underground Storage Tanks, which was formed in 1984. The agency says it expects to propose rules governing design and construction, repair and monitoring and clean-up of petroleum, gasoline and chemical tanks by early next year, but an agency spokesman says they probably won't become law before early 1988.

Mr. Dodson contends that little action will be taken by the private sector until these rules, and similar ones promulgated by the states, are put in place. Reflecting this opinion, he estimates that peroxide applications in bioreclamation will reach only 2 million to 5 million pounds in 1990. Yet he does remain bullish on the technology's long-term potential, estimating that peroxide demand in the field will eventually reach 20 million to 40 million pounds per year.

DRUGS & FINE CHEMICALS

Parabens Hike Is Successful, But Margins Are Depressed

Paraben producers and marketers say that their early-Summer price initiative was for the most part successful. Many add, however, that the increase was not much more than a pass-along of increased costs and that margins are still depressed.

April 1 and May 1 hikes or TVA reductions of 30 cents per pound were announced by the US producers Napp Chemicals, Kalama Chemical and Mallinkrodt.

In addition, Ueno Fine Chemicals, a supplier of Japanese parabens, raised its price by 30 cents per pound, and an importer of Israeli parabens reports receiving an equal increase from his supplier, which was passed along to consumers.

A related early-Summer increase was a 30-cents-per-pound increase for the paraben raw material para-hydroxybenzoic acid (PHBA). This hike was announced by the supplier Kanematsu-Gosho (USA), but sources say that other PHBA suppliers registered similar increases.

Observers say that both increases were necessitated by the recent change in the value of the dollar as compared to the Japanese yen and the German mark. Such a change affects domestically produced parabens as well as imports because, with one exception, US producers must purchase raw material PHBA from overseas.

One source notes that contributing to the PHBA hike was the September 1985 expiration of an International Trade Commission temporary duty suspension on the product that had been in effect since early 1983. Since September 30 of last year, the previously duty-free PHBA has been saddled with a 7.9 percent duty when coming from most favored nations like Japan and West Germany.

US PRODUCER EYES MARKET

Most of the world's PHBA is produced by Ueno of Japan and Bayer of West Germany. In the process of joining their ranks, however, is Napp Chemicals, which is on stream with PHBA capacity in Lodi, N.J. A spokesman says that merchant sales are eyed down the road when the plant is running at full capacity.

All involved in the parabens business say that essentially every account not protected by contract is now paying more for parabens than four months ago. Some sources, however, contend that for both the parabens and PHBA, the net increase has been closer to 15 or 20 cents per pounds.

Sources say additionally that the increase does not eliminate the fact that the business is oversupplied and growing at 1 or 2 percent per year at best, with population-spurred growth partially offset by competition from other preservatives.

Sources now put methyl paraben selling prices in a range from just over $3 per pound to about $3.30 per pound. Propyl paraben prices are 20- to 30-cents-per-pound higher. PHBA prices are said to be in the $1.95 to $2 per pound range.

Methyl paraben list prices now range from $3.32 to $4.60 per pound, the higher price with an unspecified TVA attached. Propyl paraben is list-priced 20 to 30 cents per pound higher. PHBA now lists, according to one supplier, at $2.40 per pound. All prices are f.o.b. plant or stock point for truckload quantities.

BIOTIN — Feed-grade prices are considered strong by a producer. One-percent grade is listed at $35 per kilogram, but one spokesman says actual selling prices are sometimes as low as $33 per kilogram.

Growth is called rapid by one spokesman, who estimates overall growth over the past two years at 20 percent. He says that poultry and swine feed applications have represented much of the growth, and that during the past two years, swine growth has been slightly higher than poultry growth.

The food side is considered rather stable by two spokesmen. One says the list price is $5 per gram, but that it sells for as low as $4.50 per gram. Another spokesman says the actual selling price can be as low as $4 per kilogram.

VITAMIN E — Hoffmann-La Roche Inc. has announced that, effective immediately, it is increasing it price for pharmaceutical grade liquid vitamin E to $20.50 per kilo from $18.50 per kilo.

A spokesman says the move represents an attempt to return pricing to normal levels. Vitamin E is said to have commanded as

PRICES TRENDLINES

WEEK ENDING AUG 1, 1986

CHANGES/UP

Vitamin E, $2 per kilo

CHANGES/DOWN

None

DRUGS INDEX

The Drugs & Fine Chemicals index reflects the prices of 10 representative materials in this sector and the quantity of each produced in 1985.

Aug 1, 1986	211.16
July 25, 1986	211.16
July 3, 1986	211.16
Aug 2, 1985	211.16

Chemical Prices Start on Page 32

DRUG & FINE CHEMICAL EXPORTS: MAY

BUREAU OF CENSUS FIGURES ON THE KEY DRUGS.

		MAY		APRIL	
		QUANTITY	$ VALUE	QUANTITY	$ VALUE
Antibiotics:					
Ampicillin and salts, bulk	gms.	110,106	1,201,363	916,151	1,391,899
Erythromycin	gms.	48,233	7,237,997	48,059	6,772,469
Penicillin HBPF	blu.	114,231	3,878,554	93,077	2,813,050
Penicillins, G Salts, Bulk	blu.	1,283,981	413,823	1,851,722	407,625
Tetracycline	gms.	11,918	9,045,778	1,205	1,846,286
Aspirin	lbs.	152,771	251,811	378,958	600,720
Caffeine and deriv.	lbs.	13,181	46,040	52,402	215,440
Citric acid	lbs.	440,986	475,714	676,460	685,148
Opium alkaloids and deriv.	lbs.	4,459	314,882	1,273	146,647
Hormones:					
Corticosteroids, nspf	lbs.	5,460	8,869,808	7,028	9,448,648
Nonsteroid hormones	lbs.	2,341	1,516,967	1,383	703,018
Prednisolone and esters salts	lbs.	4,250	6,405,065	3,843	4,439,278
Steroid hormones and synthetic	lbs.	21,641	4,885,496	50,810	4,114,143
Sulfonamides, bulk	lbs.	58,329	848,004	71,010	903,907
Vitamins:					
Ascorbic Acid	lbs.	105,782	427,356	169,470	746,825
Vitamin A and Pro-vitamin A, bulk	lbs.	58,954	70,607	77,898	146,688
Vitamin B_1 (thiamine)	lbs.	14,669	128,352	2,114	33,563
Vitamin E	lbs.	1,229	23,124	3,349	45,315
Vitamin B_{12}	lbs.	81,246	1,280,982	107,229	1,656,864
D and Dl pantothenic acid	lbs.	4,410	37,420	4,784	27,894
Niacin and niacinamide	lbs.	43,190	105,671	27,522	87,365
Vitamins, nspf	lbs.	120,642	672,163	189,099	848,347

DRUGS & FINE CHEMS

much as $25 per kilo prior to price erosion in 1982.

The Roche announcement follows a similar announcement made by BASF Wyandotte Corporation, the other major US vitamin E producer, that was effective July 1 (CMR, 6/23/86).

COD LIVER OIL — Prices continue to firm as tight supplies and increasing demand create raw material shortages termed "the worst we can remember" by one importing firm.

Sources say a poor cod fish catch in the North Atlantic is to blame for the supply tightness. An increase in the seal population because of a ban on seal hunting, says one importer, is reducing the cod population as well as sending the fish away from traditional fishing grounds.

Sources quote oil prices ranging from $7.75 per gallon for container-load quantities to $8.50 per gallon for smaller purchases. One says these prices represent a two-fold increase from a year to a year-and-a-half ago.

Bureau of Census figures show that imports are down about 9 percent through June of this year, to 1.7 million pounds. Declared value for shipments through June, on the other hand, is up almost 20 percent.

One importer reports that, for the time being, he is taking on no new accounts. He adds that there have been other fish oils on the market which are being passed off as cod liver oil, and warns, "let the buyer beware."

Cod liver oil demand is said to be up as public awareness of cholesterol-reducing omega-3 fatty acids grows. Some fish oils contain the acids, which have been receiving a fair amount of media attention of late.

Electronics Industry

Continued from Page 9

change in attitude from cautious optimism to resigned pessimism for 1986.

C.H. Kline & Co. reports that the worldwide electronic downturn was aggravated in the United States as lead times built up for semiconductor orders in 1984. Double and triple orders were being placed to protect electronic equipment producers against production stoppage caused by device allocation.

This resulted in an apparent increase in the demand for semiconductor devices. Producers dramatically increased production, which resulted in a dramatic increase in semiconductor consumption.

The resulting increase in semiconductor production satisfied most system producer's orders for circuits. Inventories began building and companies began to cancel excess orders. The result was a significant buildup in both fabricators and system producers inventories by the end of 1984.

Coupled with the general slowdown in the electronics industry, the sales of semiconductors dropped precipitously as a result of significant drawing down of excess semiconductor inventories by system producers.

In addition, further drawing down in inventories of semiconductor fabricators caused electronic chemical and material suppliers to be hit exceptionally hard, according to Kline.

Kline forecasts that freeworld demand for electronic systems and equipment will reach $356 billion in 1986 up from $320 in 1985. Geographically, the United States will rank first in consumption at $210 billion or 60 percent of the total. Western Europe follows at $100 billion accounting for an additional 28 percent. The balance of free world consumption is accounted for by Japan at 10 percent and Pacific Rim at 2 percent of demand.

On the component side of the business, Kline projects world semiconductor production at $33 billion in 1986 up from $27 in 1985. As a result of a 33 percent increase in value of the yen to the US dollar, and a moderate increase in production levels Japanese semiconductor output is forecast to reach $15 billion, an increase of 11 percent in yen and 50 percent in US dollars.

US semiconductor production, hit exceptionally hard in the recent industry downturn, is forecast to reach $14 billion in 1986 up from $13 billion in 1985 increasing approximately 8 percent. This moderate increase should result in the bottoming out of semiconductor inventory levels among both fabricators and users in 1986.

The US printed wire board industry in comparison is expected to show more controlled growth ,with production reaching only $4.7 billion in 1986 up from $4.6 in 1985 increasing only 4 percent. Typically in this industry, low board inventory levels result in a less cyclical business with smaller swings in growth and decline than the semiconductor industry.

In the US, the Kline survey forecasts the demand for electronic chemicals and materials to reach $3.3 billion in 1986 up from $3.1 billion in 1985. The largest product segment is substrates including printed wire board laminates and semiconductor wafers. The demand for substrates is estimated at $1.3 billion, accounting for an estimated 39 percent of US consumption of electronic chemicals and materials in 1986.

Plating chemicals rank second in demand representing 21 percent, followed by packaging materials and photoresists with 9 percent and 6 percent respectively. The remaining 25 percent of the demand is made up of 10 other major product categories, each representing any different chemical and material types.

The consumption of electronic systems in the US is forecast to reach $370 billion in 1991, up from $210 billion in 1986, increasing fairly steadily at an average rate of 12 percent a year in constant dollars.

US semiconductor production, which was very hard hit in this recent downturn, is expected to remain a fairly cyclical business, showing signs of a comeback later this year.

Vaccine Rescue Bill Urged

Continued from Page 9

the same result, "children will be denied access to necessary immunizations."

The House bill would provide a fair balance between a simple and quick compensation process and the tort system, and assures prompt and reasonable settlements for all justified claims resulting from vaccine injury, Dr. Smith testified.

Equally important, he added, it would preserve an adequate supply of effective, affordable vaccines and would demand research and field testing of improved vaccine products.

"Although the courts have played an important role in protecting our children from negligent acts, the traditional tort system has poorly served the small number of children who suffer vaccine injury. In fact, it has served to contribute to this critical public health problem by reducing the number of manufacturers, escalating vaccine costs and retarding research for new and improved vaccines," Dr. Smith said.

Under the tort system, he said, parents wait years for the resolution of lawsuits while the immediate needs of their children may be compromised. "Few eventually win settlements; many others do not," Dr. Smith observed.

He reminded the panel that little time remains to pass legislation this year. "If we do not move this issue to completion in this Congress, we may be challenged by another serious disruption in our immunization program. This means that the fate of many American children rests in your hands."

John Lyons, vice president of Merck & Co., advised the subcommittee to change the bill to make manufacturer's compliance with government market approval requirements a defense to any liability.

Robert Johnson of Lederle suggested revisions in the tort reform provisions of the proposal. He said the bill "appears to leave the tort option open and unlimited in all cases in which a jury might choose to characterize a manufacturer's conduct as wrongful."

Because this language is vague, he said manufacturers are concerned that they may not gain protection against "large, unpredictable damage awards."

An organization of parents whose children were damaged and in some instances died after taking the DPT shot, said they oppose the bill because it does not offer adequate compensation to victims or provide incentives for manufacturers to develop safer vaccines.

"This bill will go more to protect the profits of drug companies than the health of America's children," the group's spokesman told the congressmen.

'Green Book' Advertisers

Advertisers in the OPD CHEMICAL BUYERS DIRECTORY ("Green Book"), sister publication of CHEMICAL MARKETING REPORTER, advise us that they are being solicited by Associated Business Directories of Winter Springs, FL, to advertise in that concern's Commercial Chemical Directory for 1987.

Accompanying its invoice-like statement, which the company insists is not a bill, is a tear sheet of the advertiser's insertion in the 1986 edition of the OPD CHEMICAL BUYERS DIRECTORY.

This is to notify all customers of Schnell Publishing Co., parent organization of both the "Green Book" and CMR, that (1) we have no connection with Associated Business Directories or its Commercial Chemical Directory, (2) use of advertising tear sheets taken from the 1986 "Green Book" was not authorized by us and (3) the purchase of advertising space from Associated Business Directories *WILL NOT GUARANTEE* placement in the 1987 edition of the OPD CHEMICAL BUYERS DIRECTORY.

Fertilizer Group Says US Policy Ruins the Market

American farm policy has virtually eliminated the farmer's chance for marketplace profitability, except where the new marketing loan program has been implemented, a fertilizer industry spokesman told Congress last week.

"Even though we now have a market-oriented farm bill, we have not made use of the tools available to market our wheat and feed grains," said Ron Johnson, who spoke on behalf of the Fertilizer Institute as the Senate Agriculture subcommittee on foreign agricultural policy met to review the 1985 Farm Bill's impact on exports.

Mr. Johnson, formerly an executive with Agrico Chemical Company, said the US has "surrendered in the export market," making farmers "more—rather than less—dependent on the government."

The industry spokesman said the only positive trade impact resulting from the new law was a sharp rise in cotton and rice exports.

"Clearly, the reason for this tangible improvement is the new marketing loan program which was required for these products," he added.

Mr. Johnson called on congressional leaders to implement a marketing loan to relieve the 2 million bushel wheat surplus and 5 billion bushels of stockpiled corn.

Mr. Johnson said the estimated $35 billion which government will spend this year is twice the original estimate.

Superfund Pleases Critics

Continued from Page 3

bill is the establishment of a Federal community right-to-know program. Cathy Hurwit, legislative director of Citizen Action, says the program is a "milestone" because it requires chemical companies to report to state and local officials the amount and location of hazardous substances they produce, handle and store.

In addition, facilities that manufacture, process or use at least 25,000 pounds per year of any chemicals on a list of 311 hazardous substances must report annually on routine emissions to each environmental wastestream.

"The events in Chernobyl, Bhopal, West Virginia and even in New Jersey involving accidental chemical releases have made it abundantly clear, that you have to hope for the best, but plan for the worst," says Sen. Frank Lautenberg (D-N.J.), who played a key role in writing the right-to-know provisions.

The environmental groups say they are also satisfied that the legislation requires the use of permanent solutions and treatment technologies in the cleanups, which must meet standards set by other Federal health and environmental laws before Environmental Protection Agency could declare them complete.

UNIFORM STANDARDS

Rep. Florio says the provision establishes "uniform, verifiable, national cleanup standards" that will "tell us how clean is clean" when EPA completes work at a superfund site.

Daniel Becker, legislative counsel for Environmental Action, notes that the bill provides a more generous statute of limitations for persons suing for compensation for exposure to toxic substances.

In many states, plaintiffs must file suit within three years of exposure, says Mr. Becker, although the effects of hazardous materials may not become apparent for 10 to 30 years.

The new superfund law establishes that the statute of limitations for states will run from the time the victim discovered the injury and knew or should have known about the possible connection with the release of the toxic substance, he says.

The measure will send a strong message to polluters that their liability will not expire shortly after they dump hazardous wastes into the environment, Mr. Becker adds.

Janet Hathaway, legislative representative for the National Wildlife Federation, says the bill will support EPA in reaching out-of-court settlements with responsible parties for the full cost of clean ups. The provisions to encourage settlements are key, she says, because EPA expects private parties to conduct one-third of the cleanups during the next five years.

Miss Hathaway says citizen suits represent "both a victory and a defeat for us." The conference has agreed to allow citizens to sue EPA or companies for failing to comply with the law. But the conferences dropped a provision that would have allowed citizens to sue companies to stop and "imminent and substantial endangerment" caused by a hazardous waste disposal site, she says.

A toxic waste site can be hazardous without reflecting a violation of the law, Miss Hathaway explains.

The representatives say they are disappointed the bill will give EPA major discretion over the pace of toxic waste dump cleanups. The bill requires cleanups to begin at 375 sites during the five-year program but does not require the completion of the work.

There are nearly 900 dump sites on EPA's list of sites requiring priority cleanup, and agency officials have predicted the list will grow to 2,000 in the next several years.

But the environmentalists say, at the current pace of cleanup, EPA will be cleaning up superfund sites well into the next century.

"You don't have anything that pushes EPA to do more sites more quickly," says Blakeman Early, Washington representative of the Sierra Club. "That's going to have to be done through public pressure and constant vigilance."

The conference committee retained the strict, joint and several liability provisions of the current law.

Formaldehyde Study Condemned

Continued from Page 5

hyde is safe, both in the workplace and in consumer products.

The study was co-written by nine researchers, including two from E. I. du Pont de Nemours & Co. and one from Monsanto Company. It was paid for and supervised by NCI.

Dr. Philip J. Landrigan, former director of epidemiology for the National Institute of Occupational Safety & Health (NIOSH), said NCI departed from scientific norms by agreeing with participating companies to keep secret the 10 plants chosen for study and the criteria for selecting them.

Rep. Ron Wyden (D-Ore.), noted that NCI briefed several formaldehyde manufacturers on the results of the study last September, but refused to release details to Federal government agencies or labor unions until the study was made public five months later.

The question of industry's involvement in the study was also raised by Rep. John Dingell (D-Mich.), who said a provision in the study protocol required that technical changes in the design had to be agreed to by industry representatives.

"It literally gives them a veto, doesn't it?" Rep. Dingell asked Aaron Blair, the NCI epidemiologist who headed the project.

"You might interpret it that," Dr. Blair responded.

The congressmen also criticized Dr. Blair for dismissing the opinions of five of six advisory panelists who disagreed with the conclusion that there was little evidence of a link between formaldehyde and cancer.

In a letter to Dr. Blair in April, the scientists said he had interpreted the study's findings too optimistically and maintained they were actually inconclusive.

But Dr. Blair said he is "absolutely confident" about the study's methods and conclusions. "I have never claimed that the study exonerates formaldehyde," he told the panel. "I said there is little evidence (linking formaldehyde and cancer)."

COATINGS & PLASTICS

Carbon Black Prices Follow Downward Path of Oil Costs

Carbon black prices continue to fall, in tandem with raw material costs. Columbian Chemical Corporation, J.M. Huber Corporation and Sid Richardson Inc. all cut prices by 1 cent per pound, effective July 24.

In addition to declining carbon black oil prices, the carbon black market is burdened with overcapacity and weak demand.

Many producers thought carbon black prices had bottomed out in March, when they fell 3.25 cents per pound, reflecting a drop in carbon black oil prices to $15 per barrel from $21.50 (CMR 3/31/86, pg. 25).

Since March, oil prices have declined even further, to a current level of $9.50 per barrel, while carbon black selling prices have fallen a total of 2.75 cents per pound since March.

CURRENT SELLING PRICES

Current bulk selling prices for Sid Richardsons's tread grade products N-330 and N-339 are 22.25 cents per pound and 23 cents per pound, respectively. Bulk prices for other representative grades include N-550 at 21.25 cents per pound, N-660 at 20.75 cents per pound, N-299 and 24 cents per pound and N-774 at 21 cents per pound (paper bag quantities for all grades cost an additional 3 cents per pound).

Bulk selling prices for Huber's N-500, N-299 and N-700 are given as 21.25 cents per pound, 24 cents per pound and 21 cents per pound.

Sources estimate that the industry is currently running at just under 80 percent of a total nameplate capacity of approximately 3.2 billion pounds. In May, the capacity utilization rate was about 83 percent; it dropped to 80 percent during June (the slowest time of the year for this market) and has remained at 79 to 80 percent for July.

Domestic demand is said to be around 2.5 billion pounds per year. One producer adds that current production only slightly exceeds demand, and inventories are low.

US producers have been hurt by rising car imports, which affect the all-important tire market, as well as imports of carbon black itself.

Canada and Mexico together account for 95 percent of total carbon black imports, which fell to 5.3 million pounds in May from 10.5 million pounds in April. The sharp decrease is attributed largely to a May strike at Cabot Corporation's Ontario plant.

Domestic Carbon black exports, meanwhile, rose to 33.5 million pounds in the first six months of this year, compared to 25.2 million pounds in the same period last year. Most of the material exported consisted of specialty industrial rubber grades.

US producers are still seeking imposition of countervailing duties against Mexican material entering the US, saying Mexican producers enjoy an unfair raw material cost advantage. Legislation is also pending in Congress that would impact imports of carbon black from Mexico.

Phillips, one of the major players in the US market, sold its carbon black operations, both domestic and international. It divested its share of the "Sovalco" facility in the UK, which Columbian Chemicals Inc., its partner, took over. Columbian is also said to have bought a Phillips Plant in Hanover, Germany in June.

Its German production capacity was bought by Degussa AG of Germany in March. Sid Richardson bought its Borger Texas "Philblack" plant in April, and Huber acquired its Orange, Texas "Echoblack" plant in June.

These consolidation moves are expected to have a positive effect on pricing and the overall health of the US market in the long run.

THERMOPLASTICS

BULK PRICES IN JULY

	JULY (US $)	JUNE (US $)
Polyethylene-LD, liner........lb.	.26-.30	.26-.30
Polyethylene-HD, injection ..lb.	.24-.29	.25-.29
Polyethylene-LLD* ....lb.	.25-.29	.25-.29
Polypropylene, molding .....lb.	.31-.35	.31½-.34
Polystyrene, g.p. ....lb.	.34-.37	.33½-.36
Polyvinyl chloride, pipe ......lb.	.29-.30	.30

*Butene-1 comonomer.

PRICES TRENDLINES

WEEK ENDING AUG 1, 1986

CHANGES/UP

None

CHANGES/DOWN

None

COATINGS INDEX

The Coatings & Plastics index reflects the prices of 13 representative materials in this sector and the quantity of each produced in 1985.

Aug 1, 1986	306.4
July 25, 1986	306.4
Aug 3, 1986	306.4
Aug 2, 1985	306.4

Chemical Prices Start on Page 32

PLASTICS ADDITIVES

ORGANOMETALLIC COUPLING AGENTS — Kenrich Petrochemicals Inc. is reducing prices for its "Ken-React," "Lica," "Capow" and "Caps" neoalkoxy titanates, as well as those of its "Ken-React," KR, LZ and KZ neoalkoxy, coordinate and cycloheteroatom zirconate powders.

The price reductions vary with grade and according to order size, but some grades have been discounted by as much as 40 percent.

The firm's president, Salvatore J. Monte, explained that decreased production costs, brought on by new technology, are driving the decrease. As he explains, "Our price reductions are based on acceptance by the US Patnet Office of several recent Kenrich patent filings on our neoalkoxy titanates and zirconates, in addition to the assignment of TSCA numbers by the EPA and numerous successful applications in the technical and commercial marketplace." He expects demand for the agents to grow substantially over the next few years.

Prices for some representative grades follow. "Ken-React" LZ 01 will sell for $11.09 per pound (truckload quantities) to $31.29 per pound (for the smallest available quantity, under 5 gallons); LZ-12 will sell for $9.85 per pound (truckload) to $27.8 per pound; "Ken-React Capow" KR TTS/H will sell for $3.82 per pound (for 5,000 lb. orders and up) to $13.66 per pound (for orders under 50 pounds). "Lica" 01 will sell for $5.07 per pound to $18.65 per pound and "Lica" 97 for 6.34 to 21.31 per pound.

Mr. Monte announced that Kenrich's Ken-React Reference Manual is currently being revised, and should be available in September. It will include improved and accurate recommendation tables, an updated patent survey, and new applications data. It will also introduce some new organometallics which have been developed for special reactions.

PLASTICS MATERIALS

POLYPROPYLENE — El Paso Products Company has started to rebuild one of its polypropylene lines at Odessa, Tex., which was partially destroyed by fire on June

Continued on Page 49

HEAVY & AG CHEMICALS

Sodium Sulfate Demand, Capacity Continue to Shrink

Sodium sulfate producers have little good news this year as sulfate use in detergent applications continues to be cut back and saltcake consumed by pulp and paper manufacturers faces stiff competition from competing bleaches.

Dry detergent makers are said to be presently engaged in another round of reformulation which may well result in lower sodium sulfate consumption. Sources admit it is generally difficult to determine detergent makers' plans ahead of time. One says that by November their requirements for 1987 should be firmed up.

Encroachment on the dry laundry detergent market by liquids, which do not use sulfate, is said to have leveled off, with liquids now commanding 25 to 30 percent of detergent sales.

One observer says, however, that major detergent makers are currently test marketing liquid dishwasher detergents and guesses they may eventually take in the range of one-quarter of that market from sulfate-containing dry dish detergents.

Another source points out, though, that current sales levels for liquid detergents have been achieved by an advertising level that is most likely unmaintainable. He feels liquid sales may ebb somewhat when advertising finally subsides.

Saltcake sales, likewise, continue to languish due to increasing use of emulsified sulfur and caustic soda as bleaching agents by papermakers.

The trend is currently exacerbated by extremely low caustic soda prices. Most sources feel saltcake use will increase when and if caustic prices firm, possibly in the Fall, but many concede as well that the pendulum will never swing entirely back.

Tempering decreased demand is decreased production of by product sodium sulfate. Last year Allied Chemical ceased byproduct production when it closed its Baltimore, Md., chrome chemical plant.

FERTILIZER MARKET SLOW

Also last year, Climax chemical converted some of its Grantsville, Utah, sodium sulfate capacity to potassium sulfate. A source at Climax says the plant is presently producing sodium sulfate as well, since the fertilizer market for potassium sulfate had been slow this year.

Others add that production at both of Climax's plants is down this year since use of the company's primary product, hydrochloric acid, is off. Hydrochloric acid is used in oil drilling, a market that has suffered since the oil price collapse.

Also out West, Gulf Resources has not been producing for some time due to flooding at the Great Salt Lake. Sources report, however, that the company is still refining material that had accumulated in inventory.

In the East, sulfate product production at Foote Mineral Company's Kings Mountain, N.C., plant ceased temporarily July 1 when lithium carbonate production stopped there. Foote Mineral is currently up for sale (CMR, 7/28/86, pg. 40).

On the capacity increase front, J.M. Huber will be coming on stream this Fall with high purity sodium sulfate capacity in Havre de Grace, Md., as a byproduct of silica pigment production.

Also, Courtaulds North America expanded its sulfate byproduct capacity earlier this year by about 40 percent to 35,000 or 40,000 tons, according to a spokesman. It also upgraded the output to high purity detergent grade sulfate as opposed to the pulp grade saltcake it made previously.

Making higher quality byproduct material seems to be a trend in the industry. Department of Commerce reports overall sodium sulfate production through April of 278,000 tons, down about 9 percent from the same period in 1985. However, high purity (over 99 percent sodium sulfate) production for the period increased 8 percent, to 153,000 tons.

Preliminary Bureau of Mines statistics show that natural sodium sulfate production for the first six months of 1986 hit 196,000 tons, as opposed to 197,000 tons for the same period in 1985.

To the surprise of some, natural sulfate imports from Mexico are off this year, totalling only 2,739 tons through May. Sources had expected the Mexicans to be more aggressive this year when they ceased to sell through a distributor and began marketing on their own.

Sources say sodium sulfate pricing has changed little since the beginning of the year. Saltcake still lists at $55 per ton, f.o.b. plant, but in some cases actually sells at a $15 or $20 per ton discount.

Pricing for both natural and byproduct high purity sodium sulfate are said to be closer to list levels, especially on the West Coast. List levels range from $96 to $125 per ton, depending on location and grade. One source says sales closer to production points often go at list, but that shipping longer distances requires freight equalization with other producing points and tends to net closer to $85 or $90 per ton.

PRICE HIGHLIGHTS

INORGANICS IN JULY

	JULY (US $)	JUNE (US $)
Ammonia, US Gulf, barges	75-80	80-85
Caustic Soda, US Gulf, railcars	80-90	85-95
Chlorine, US Gulf, tankcars	140-165	135-145
DAP, US Gulf, barges	135-140	140
Soda Ash, Green River, Wyo.	74	74
Sulfuric Acid, S.E., tankcars	55-60	55-60

Prices are in short tons and represent spot quotations for large buyers.

PRICES TRENDLINES

WEEK ENDING AUG 1, 1986

CHANGES/UP

Sodium Ferrocyanide, 8c. per pound

CHANGES/DOWN

None

HEAVY & AG INDEX

The Heavy & Ag Chemicals index reflects the prices of 18 representative materials in this sector and the quantity of each produced in 1985.

Aug 1, 1986	113.69
July 25, 1986	113.69
July 3, 1986	113.69
Aug 2, 1985	113.69

Chemical Prices Start on Page 32

BASES & SALTS

SODIUM CHEMICALS — Public Service of Colorado (PSC) says it will be meeting with EPA later this month to propose installation of a dry scrubbing system for collection of SO_2 off-gas at two of its Cherokee generating station coal-fired power plants.

PSC, according to a spokesman, intends to install baghouse particulant collectors at two of its four Cherokee generators, replacing the present wet scrubbers. The other two generators have already been converted.

In doing so, however, SO_2 off-gas output increases by about 15 percent, an amount EPA considers unacceptable. Consequently, PSC has decided a dry chemical system would be best to collect this excess, and will be meeting with EPA to discuss a construction proposal.

If the dry system proposal is approved, PSC expects construction bid specifications

HEAVY CHEMICALS

to be ready by the end of the year, and a subsequent construction period of two or two-and-a-half years. If not approved, PSC says it will not proceed with the baghouse system.

The PSC spokesman says the dry scrubber it intends to use has yet to be decided. He says natural sodium bicarbonate (nahcolite), and trona, as well as other materials, are being considered. PSC joins other public and private utilities in considering dry scrubbing systems for removal of SO_2 gas (CMR, 7/7/86, pg. 5).

SODIUM FERROCYANIDE — The Chemicals Division of Degussa Corporation has announced a price increase for sodium ferrocyanide, effective immediately. Prices, in 25 kilo bags, are as follows: 60c. per pound for truckload quantities, 65c. per pound for less than truckload quantities, f.o.b. East Brunswick, N.J., and Mobile, Ala.; 64c. per pound for truckload quantities, 69c. per pound for less than truckload quantities, f.o.b. Sparks, Nev., and Long Beach, Calif.

Packaging in 400 pound fiber drums commands a 4c.-per-pound premium for both quantity sizes. In addition, Degussa notes that 25 kilo bags are available in both technical grade material and F.C.C. grade material without a price differential. Only technical grade material is available in 400 pound packaging. Also, less than truckload orders will be on an f.o.b. basis only with a minimum order of 1,000 kilos (one pallet).

A spokesman says the new prices represent about a 13 percent increase over previous levels. He says the price had not changed in four years and cites diminishing margins, increased costs, and to an extent, the decrease in the value of the dollar as reasons for the hike. The material is manufactured by Degussa in West Germany.

At present, there are no US producers of sodium ferrocyanide. The last one, American Cyanamide, ceased production in 1982. At that point, Degussa took over production for Cyanamid, and by 1985 was servicing Cyanamid's customers directly.

Sodium ferrocyanide is added to salt as an anticaking agent and is used in mining applications. It also finds use in steel tinning and chemical synthesis.

COATINGS & PLASTICS

Continued from Page 26

1986. The reconstruction period is expected to take from 3 to 5 months. During this period, company spokesmen report that polypropylene production will continue uninterrupted in the firm's Bayport facility and on its other Odessa line.

POLYVINYL ACETATE — Producers report that prices for polyvinyl acetate have declined by a total of 2 cents per pound from January through July 1986.

One producer gives a selling price range of 27 to 29 cents per pound for paint grades, noting that discounts have brought prices down to 24 cents per pound for some customers. He describes prices as "way too low," and spread out too much. Other suppliers give much higher ranges of 32 to 34 cents per pound, adding that discounts of up to 20 percent are common.

Prices for paper grades are said to range from 28 to 30 cents per pound, with discounts of 10 to 12 percent; those for adhesives grades are priced from 28 to 32 cents per pound, with 10 to 20 percent discounts common.

Overcapacity is said to be a problem in the industry, but suppliers agree that most of it involves outdated production. Customers, aware of the idle capacity, are said to be using it to pressure suppliers into bringing down prices.

Producers estimate that domestic nameplate capacity is now about 2 billion pounds per year. Utilization rates are said to vary with producers. Although one is reportedly producing at 80 percent of capacity, sources state that most producers are operating at 70 to 75 percent of capacity. One company is said to be operating at 50 percent of capacity.

New capacity has been added within the last two years, but at present, it seems to balance the amount of capacity being shut down.

Reichhold Chemicals Inc. shut its West Coast plants in Tacoma and San Francisco last year. H.B. Fuller has also shut down some existing capacity, but is said to be building a new plant which should replace the previous capacity. Union Carbide brought a new plant on line in California last year. An additional plant is being considered, but plans have not yet been finalized.

Air Products is contemplating new expansions for the year, but expects the expansions to take the form of debottlenecking projects, rather than new plants.

Domestic paper demand is said to be up this year, primarily at the expense of other polymers.

Paint demand is also up, as PVAC is increasingly being used as a cheaper alternative to acrylics. One producer expects 40 million to 50 million pounds of demand to be added to the total of 500 million pounds by the end of 1986.

Sources agree that 1986 should be an all-time high for the paint end of the market.

Chemical Finance

Syntro In First Public Equity Offering

Syntro Corporation, San Diego, Calif., is offering 1.35 million shares of its common stock at $8 per share. Of the total, some 1.25 million shares are being offered by the company while Merrill Lynch Capital Markets and L.F. Rothschild, Unterberg, Towbin Inc. are managing the underwriting syndicate.

Syntro intends to use the net proceeds from the offering, along with other existing funds, for plant, equipment and working capital for its animal health subsidiary, for company-sponsored research, and for other general corporate purposes. Syntro is developing vaccines for animal health and specialty chemicals for the food, industrial and energy recovery markets through molecular biology, including recombinant DNA, biochemistry and fermentation engineering.

Mobil Selling Packaging Unit for $700 Million

Mobil Corporation has agreed to sell its paperboard packaging subsidiary, Container Corporation of America, to Jefferson Smurfit Company and a limited partnership for $700 million. Jefferson Smurfit is an Irish paper company, while the limited partnership has been organized for investors in such transactions by Morgan Stanley & Co. and Cigna Corporation. The buyers will assume $460 million of Container Corporation's debt.

Mobil has had under consideration the sale of both Container Corporation and Montgomery Ward & Co. for several years. A charge of about $150 million will be taken for the sale in the third quarter. Mobil said it will retain Container Corporation's 49 percent interest in T.R. Miller Company, of Brewton, Ala.

Canadian LPG Exports to US Rising

Exports of liquefied petroleum gases from Canada to the US will grow from 107,000 barrels per day last year by about 51 percent to 159,000 barrels in 1995, according to Resource Planning Consultants, Inc., Houston, Tex. At the same time, Venezuela is expected to increase its LPG production and export capability and to market aggressively in the US. Exports to the US from Latin America as a whole will rise from about 11,000 barrels per day in 1985 to about 48,000 barrels per day in 1995. Japan, in an effort to lessen dependence on the Mideast, is expected to increase its imports from Southeast Asia, according to RPCI.

Celanese Raises Dividend 10 Cents per Share

Directors of Celanese Corporation have voted to increase the quarterly cash dividend on the common stock by 10 cents to $1.30 per share, payable September 30 to shareholders of record on August 29. The increased dividend is the result of the corporation's positive assessment of its future, supported by a strong cash flow, a company spokesman said. The board also voted regular quarterly dividends of $1.125 per share on the preferred stock, Series A; 75 cents per share on the convertible preference shares; and $1.75 per share on the 7 percent second preferred. These dividends are payable October 1 to shareholders on August 29.

Morton Thiokol Buys a Polymer Corp. Operation

Morton Thiokol Corporation, Chicago, has acquired thue Powder coatings business of Polymer Corporation, Reading, Penn., a wholly owned subsidiary of Chesebrough-Ponds Incorporated. The newly acquired business is to be merged with Morton Chemical Division's existing powder coatings business, called Armstrong Products, in Warsaw, Ind. and will be headquartered in Reading. The new organization will be directed by Thomas Scattaloni, vice-president of powder coatings, and will operate within Morton Chemical.

De Soto Buys Into UK Finishes Company

DeSota, Inc., has acquired 50 percent of the equity capital of Dufay Titanine PLC, of Shildon, County Durham, England, for $6 million. De Soto will combine its product development, manufacturing and marketing strengths with those of Titanine Aircraft Finishes, a division of Dufay, in a new operation to be known as DeSoto Titanine, which will supply a diverse line of aerospace coating products for commercial and military applications worldwide.

More Second-Quarter Results: Specialties

	2Q NET INCOME	2Q SALES	6 MOS. NET INC.	6 MOS. SALES
BORDEN				
1986	$62 MM	$1,237 MM	$88.6 MM	$2,373 MM
1985	$46.3 MM	$1,193 MM	$80.9 MM	$2,270 MM
FERRO				
1986	$5.1 MM	$185.1 MM	$9.7 MM	$359.7 MM
1985	$3.3 MM	$166.3 MM	$6 MM	$329.1 MM
LUBRIZOL				
1986	$18.9 MM	$280.8 MM	$47 MM	$537.4 MM
1985	$15.9 MM	$250.2 MM	$35.3 MM	$505.7 MM
MORTON THIOKOL				
1986	$30 MM	$490.5 MM	$132.9 MM	$1,949 MM*
1985	$27.9 MM	$450.7 MM	$197.9 MM	$1,632 MM*
REICHHOLD				
1986	$10.5 MM	$212.7 MM	$11.5 MM	$422.4 MM
1985	$31.1 MM	$235.2 MM	$8.7 MM	$420.3 MM
VULCAN				
1986	$31.7 MM	$256.6 MM	$38.6 MM	$457.2 MM
1985	$26.7 MM	$261.3 MM	$33.9 MM	$480.7 MM

* Full fiscal year

PERFUMES & FLAVORINGS

Cassia Markets Are Firming As Indonesia Shipments Slow

Prices for Indonesian cassia have firmed up in response to tight supply conditions and concern over the quality of material, trade sources report.

Cassia Korintji A 2.75 firmed 4 cents per pound last week, to 80 cents per pound, grade B 2.50 firmed 3 cents per pound to 75 cents per pound, grade B 2.25 firmed 2 cents per pound to 72 cents per pound, and grade C 1.50 firmed 2 cents per pound to 68 cents per pound. The firming trend was evident as well in futures prices.

"There is a shortage of cassia in the States," says one broker, and another observes that the reason for this is that "shipments (from Indonesia) are not too plentiful."

He says that the Indonesians are focusing attention on their coffee harvest, and should start to cut cassia around month's end, when the coffee harvest is finished.

This source attributes much of the firm trend to short-sightedness on the part of buyers who have perceived the low level of shipments but have not taken into consideration the seasonal cause. As a result, "all of a sudden, you have a surge in demand, so then the price goes up."

CONTRACT REQUIREMENTS

Quality problems have contributed to the market tightness, sources note. "The oil content hasn't been as good as normal, so people have had difficulty getting material," says a broker. Another source comments that "Indonesia is shipping stuff well below par" that fails to meet minimum oil content contract requirements.

"Inspection equipment being used in the West is getting far more technical," and has made quality monitoring more stringent, comments one broker. It is noted that until fairly recently, cassia was shipped in long sticks that could be inspected visually, but now it is broken up into pieces.

Indonesia's shipping system also is cited as a supply factor contributing to firmer pricing. A good percentage of material moves from Indonesia via "boat-to-boat relay." If a shipment misses a relay link, "you may expect it to arrive in six weeks, but it takes eight, so you're caught short," comments a broker.

AROMA CHEMICALS

EUGENOL — It is reported that this market has tightened up due to a reduction in the availability of clove. It is said that neither Madagascar nor Brazil are offering new crop clove thus firming its pricing.

HELIOTROPINE — An industry source says that pricing has firmed up during the past several days due to low raw material availability. "Sassafras oil is tight both in China and Brazil," he observes. The price is quoted at $17.50 per pound.

ESSENTIAL OILS

CITRUS OILS — Three new incidents of citrus canker were observed in Florida last week. This follows the detection last month, just inland from Anna Marie Island, of the first instance of citrus canker in a commercial grove containing adult trees.

The incidents noted last were in a greenhouse in Winterhaven, a tree in a non-producing grove near Orlando, and a tree in a residential area of St. Petersburg.

An industry source says that these most recent cases, along with outbreaks in nurseries the past two years, involve a strain of canker unique to Florda that is probably not strong enough to survive outside the idyllic nursery conditions.

However, he notes, the canker found in the grove just inland from Anna Marie Island off the Gulf Coast is of a more severe Asian strain that had not been detected in the US since the early part of this century. He says that additional cases of the canker have been cited in the grove in recent days.

PEPPERMINT OIL — Yakima peppermint oil "seems to be firming up," says a broker. Although the new crop is coming out, "a lot of the material has been bought up," he says, and "a large portion of the carryover inventory has been worked over."

PRICES TRENDLINES

WEEK ENDING AUGUST 1, 1986

CHANGES/UP

Cassia, KA 2.75, 4c. per lb.
Cassia, KB 2.50, 3c. per lb.
Cassia, KB 2.25, KC 1.50, 2c. per lb.
Coriander seed, Moroccan and Rumanian, 1c. per lb.
Coriander seed, Chinese FAQ, 2c. per lb.
Dill weed, Egyptian, 15c. per lb.
Mace, Padang siftings, 10c. per lb.
Marjoram, Egyptian FAQ, 6c. per lb.
Oregano, Turkish 30 mesh, 3c. per lb.
Paprika, Spanish 50, 3c. per lb.
Poppy seed, 1c. to 2c. per lb.

CHANGES/DOWN

Caraway seed, Egyptian Fancy/Rect., 1c. per lb.
Celery seed, Indian, 1c. per lb.
Cumin seed, Iranian, 3c. per lb.
Ginger, Chinese Whole # 1 X-Fancy, 2c. per lb.
Pepper, Brazilian and Malabar black, 3c. per lb.
Pepper, Lampong black, 1c. per lb.
Pepper, Tellicherry, 5c. per lb.

PERFUMES INDEX

The Perfumes & Flavorings index reflects the prices of 11 representative materials in this sector and the quantity of each supplied in 1985.

August 1, 1986 .... 71.00
July 25, 1986 .... 71.00
July 4, 1986 .... 71.00
July 31, 1985 .... 82.44

Chemical Prices Start on Page 32.

PERFUME & FLAVOR IMPORTS: APRIL

CENSUS BUREAU REPORTS ON THE KEY AROMA CHEMICALS

		APRIL	MARCH	ALL OF 1986	APRIL 1985
Benzyl Acetate	lb.	41,887	159,172	464,227	89,167
Castoreum	lb.	917	2,998	7,307	176
Citral	lb.	17,562	388	44,238	11,242
Citronellol	lb.	25,377	16,831	50,531	20,924
Civet	lb.	198	5,481	6,723	5,473
Ethyl Vanillin	lb.	27,559	14,330	93,564	32,156
Eucalyptol	lb.	6,614	---	18,408	[illegible]
Eugenol/Isoeugenol	lb.	20,282	9,034	93,250	19,676
Geraniol	lb.	6,250	36,029	45,035	23,920
Hydroxycitronellal	lb.	65,763	62,598	182,350	36,350
Indole	lb.	3,087	3,991	8,841	2,856
Ionone	lb.	72,458	79,185	226,621	38,153
Linalyl Acetate	lb.	22,487	122,302	298,562	[illegible]
Menthol	lb.	285,497	201,766	849,121	[illegible]
Methyl Salicylate	lb.	40,565	79,761	356,131	83,554
Musk, artif.	lb.	136,504	81,504	331,299	38,902
Phenylethyl Alcohol	lb.	91,112	177,614	591,437	169,864
Rhodinol	lb.	578	572	1,992	314
Vanillin	lb.	241,992	287,026	1,165,878	331,446

CHEMICAL IMPORTS

US imports of chemicals and related materials are reported in this section by CPI masterial. Listings include consignee where possible, container, net weight, name of vessel (in parenthesis), port of origin and date of shipment's arrival in New York or the Port of Newark.

US chemical imports/exports are tabulated monthly in the market reports.

A

2-AMINO-5-CHLOROBENZOPHENONE Alltransport 6 pkg (1,576 lbs) (Dart Americana) Bremerhaven, 6/18.
4-AMINOPHENAZONE Unitd Warehousing 1 dms (121 lbs) (Wladyslaw Sikorsk) Bremerhaven, 7/8.
ABS RESIN Mitsui Soko 1,980 bgs (242,144 lbs) (Oriental Legend) Kaohsiung, 6/17.
ACETAMINOPHEN Byron Chemcial 200 dms (24,251 lbs) (Ever Going) Keelung, 6/16.
ACETONE Rohm & Haas 1 bks (2,174,243 lbs) (Universal Frontie) Yokohama, 7/2.
ACETONITRILE Cruachem 13 ctn (331 lbs) (Atlantic Conveyor) Liverpool, 6/20.
ACETOPHENONE Order 73 pkg (35,406 lbs) (Ever Guard) Felixstowe, 6/15.
ACETYL ISOEUGENOL Order 6 dms (714 lbs) (Regina Maersk) Tokyo, 7/10.
ACETYL PARAAMINOPHENOL Rhone Poulenc 360 dms (42,699 lbs) (Atlantic Star) Le Havre, 6/18.
ACETYLSALICYLIC ACID Continental Fwdg 2,000 ctn (127,867 lbs) (Oriental Legend) Hong Kong, 6/17.
AGAR AGAR American Shpg 90 bgs (5,203 lbs) (Aconcagua) Valparaiso, 6/15.
Chart 20 dms (2,425 lbs) (Ever Going) Osaka, 6/16.
ALDEHYDE C-11 Max Gruenhut 6 dms (0 lbs) (Sea Land Express) Rotterdam, 6/19.
ALLYL ISOTHIOCYANATE Kanematsu Gosho 2 cs (397 lbs) (New York Maru) Kobe, 6/19
ALOE EXTRACT Louis Mauro Penco 18 tin (1,138 lbs) (American Envoly) Bremerhaven, 6/21.
ALOE VERA LEAVES Janel Intl Fwdrs 110 dms (40,000 lbs) (Sandra) Haina, 6/20.
ALUMINUM CHLORIDE American Import Service 40 ctn (3,093 lbs) (American Envoy) Rotterdam, 6/21.
ALUMINUM ACETATE Meiko Warehousing 5 dms (0 lbs) (New York Maru) Kobe, 6/19.
AMINOPHYLLINE D Hauser 4 dms (478 lbs) (Numberg Express) Hamburg, 6/17.
AMMONIUM BIFLUORIDE Decor 816 bxs (48,272 lbs) (Ever Superb) Fos, 6/21.
AMMONIUM METAVANADATE Brandeis Intsel 140 dms (15,432 lbs) (American Envoy) Rotterdam, 6/21.
AMMONIUM PERSULFATE Order 1,440 bgs (0 lbs) (New York Maru) Tokyo, 6/19.
AG Order 3,600 bgs (200,795 lbs) (Regina Maersk) Tokyo, 7/10.
ANILINE DYES Order 199 dms (30,977 lbs) (TFL Jefferson) Bremerhaven, 6/23.
ANIMAL GLUE Olympic Adhesive 330 bgs (33,069 lbs) (American Georgia) Santos, 6/19.
William B Skinner 360 bgs (44,753 lbs) (American Envoy) Bremerhaven, 6/21.
ANNATTO SEED Diogenes Luis Ernesto Ramire 397 bgs (0 lbs) (San Pedro) Haina, 6/20.
ANTIMONY ALLOY Leyden Customs Expediters 720 pcs (43,662 lbs) (Tenglo) Antofagasta, 6/18.
ANTIMONY TRIOXIDE Ico Trdg 400 bgs (44,093 lbs) (Chao He) Hong Kong, 6/17.
Dynamit Nobel 1 bgs (71 lbs) (Atlantic Star) Rotterdam, 6/18.
ASCORBIC ACID Order 20 plt (23,545 lbs) (Atlantic Conveyor) Liverpool, 6/20.
Universal Transcontinental 200 ctn (0 lbs) (Atlantic Star) Le Havre, 6/18.
EM Ind 24 bxs (36,810 lbs) (Falmouth Bay) Bremerhaven, 6/16.
ASPARTIC ACID Ajinomoto 40 bxs (71,429 lbs) (Ever Guard) Le havre, 6/15.
AZOBISISOBUTYRONITRILE Sakai Trdg 295 dms (Barber Taif) Kobe, 6/16.

B

BARIUM TC Container 800 bgs (45,327 lbs) (Jebel Ali) Leghorn, 6/19.
BARIUM CHLORIDE ICD Group 720 bgs (40,730 lbs) (Alexandra) Antwerp, 6/16.
Order 720 bgs (39,842 lbs) (New York Maru) Kobe, 6/19.
Cometals 2,040 bgs (113,766 lbs) (Chao He) Hsinkang, 6/17.
BARIUM HYDROXIDE TC Container 721 mix (85,613 lbs) (Saudi Makkah) Leghorn, 6/14.
BARIUM NITRATE Cometals 3,300 bgs (385,590 lbs) (Chao He) Hsinkang, 6/17.
BASIL HERBS Ludwig Mueller 510 bgs (42,990 lbs) (TFL Jefferson) Felixstowe, 6/23.
BLACK PEPPER Jet Dispatch 70 bgs (9255 lbs) (Reginma Maersk) Singapore, 7/10.
Shah Trdg 140 bgs (22399 lbs) (Regina Maersk) Singapore, 7/10.
Thomas J Lipton 280 bgs (44797 lbs) (Regina Maersk) Singapore, 7/10.
BEESWAX Machado 170 bgs (22,487 lbs) (San Pedro) Haina, 6/20.
BENZALDEHYDE Chemical Dynamics 25 dms (12,015 lbs) (Alexandra) Rotterdam, 6/16.
BENZOYL CHLORIDE American Logistical Freight 1 tnk (41,867 lbs) (Alexandra) Rotterdam, 6/16.
BENZYL ALCOHOL Acl Ind 72 dms (73,334 lbs) (Polwind) Vera Cruz, 6/23.
Marlborough Chemicals 1 tnk (41,711 lbs) (Atlantic Conveyor) Liverpool, 6/20.
CDF Chimie 1 tnk (39,330 lbs) (Alexandra) Rotterdam, 6/16.
BENZYL BENZOATE Chemical Dynamics 10 dms (4,806 lbs) (Alexandra) Rotterdam, 6/16.
BENZYL CYANIDE Inter Mitime Fwdg 1 tnk (42,328 lbs) (Wladyslaw Sikorsk) Le Havre, 7/8.
Marlborough Chemicals 1 tnk (43,210 lbs) (Alexandra) Felixstowe, 6/16.
Inter Maritime Fwdg 1 tnk (42,439 lbs) (Wladyslaw Sikorsk) Le Havre, 7/8.
BENZYLCHLORPHENOL Janel Intl Fwdrs 600 bgs (34,436 lbs) (TFL Jefferson) Rotterdam, 6/23.
BETA-NAPHTHOL Montedison 780 bgs (44,297 lbs) (Pilar) Genoa, 6/16.
BETA-OXYNAPHTHOIC ACID Montedison 780 bgs (44,297 lbs) (Pilar) Genoa, 6/16.
Montedison 36 bbg (41,427 lbs) (Nedlloyd Rotterdam) Marseille, 6/17.
BIS-T-BUTYLPEROXYBUTANE Hermann Ludwig 50 ctn (88 lbs) (Numberg Express) Hamburg, 6/17.
BLACK PEPPER Dmt 751 bgs (125,049 lbs) (Prosperity) Pandjang, 6/23.
Ludwig Mueller 207 bgs (34,162 lbs) (Prosperity) Pandjang, 6/23.
V Berg & Sons 215 bgs (33,938 lbs) (Jebel Ali) Dubai, 6/19.
Dmt 857 bgs (135,419 lbs) (Banglar Mamata) Cochin, 6/17.
Griffith Laboratories 215 bgs (33,938 lbs) (Banglar Mamata) Cochin, 6/17.
Ludwig Mueller 1,001 bgs (156,009 lbs) (Banglar Mamata) Cochin, 6/17.
Man Producten 214 bgs (33,733 lbs) (Banglart Mamata) Cochin, 6/17.
Tata 428 bgs (67,465 lbs) (Banglar Mamata) Cochin, 6/17.
BLUE POPPY SEED Crawford Kish 720 bgs (36,773 lbs) (Act 6) Melbourne, 6/22.
Crawford Kish 720 bgs (36,728 lbs) (Act 6) Melbourne, 6/22
Order 720 bgs (36,728 lbs) (Act 6) Melbourne, 6/22
BONE GLUE Mitsui Osk Lines 680 bgs (76300 lbs) (New York Maru) Kobe, 6/19.
BORON TRIFLUORIDE Fluka Chemical 1 bxs (20 lbs) (Sea Land Express) Rotterdam, 6/19
BUTYLETHYLPHENOL Order 1 tnk (39,683 lbs) (Atlantic Conveyor) Liverpool, 6/20

C

CADMIUM Order of Shipper 113 cs (11,874 lbs) (Oriental Freedom) Hong Kong, 6/13
CADMIUM OXIDE CD Oxide 3 plt (3,554 lbs) (Dart Americana) Felixstowe, 6/18.
CADMIUM PIGMENT Scanfreight 3 dms (309 lbs) (Dart Americana) Felixstowe, 6/18.
Whittaker Clark & Daniels 4 dms (247 lbs) (Sea Land Express) Rotterdam, 6/19.
CAFFEINE Jagro Custom House Brokers 120 dms (7,701 lbs) (American Envoy) Bremerhaven, 6/21.
CALCINED MAGNESIUM OXIDE Witco Chemical 10 bgs (617 lbs) (Zim Keelung) Haifa, 6/16.
CAMPHOR POWDER Order 1,000 dms (59,525 lbs) (Chao He) Shanghai, 6/17.
CAPSICUM OLEORESIN Fritzsche Dodge & Olcott 17 dms (1,274 lbs) (Banglar Mamata) Cochin, 6/17.
CARBON DISULIDE Fluka Chemical 1 bxs (117 lbs) (Sea Land Express) Rotterdam, 6/19.
CARDAMOM SEED HP Schmid 25 bgs (2,240 lbs) (Polwind) Sto Tomas, 6/23.
CARRAGEENAN Fmc 380 dms (44,568 lbs) (Atlantic Conveyor) Gothenburg, 6/20.
CASEIN Norseland Foods 1,560 bgs (85,980 lbs) (Sea Land Express) Rotterdam, 6/19.
Mincing Trdg 200 bgs (22,487 lbs) (Prosperity) Padang, 6/23.
122 pkg (15,432 lbs) (Laust Maersk) Singapore, 6/19.
CASSIA KORINTHI Otto Gerdau 160 bgs (22,399 lbs) (Prosperity) Padang, 6/23.
Van De Vries Trdg 500 bgs (55,269 lbs) (Prosperity) Padang, 6/23.
AA Sayla 582 bgs (55,677 lbs) (Prosperity) Padang, 6/23.
Daamhouwer 160 bgs (22,399 lbs) (Prosperity) Padang, 6/23.
Durkee Foods 400 bgs (55,997 lbs) (Prosperity) Padang, 6/23.
Gel Spice 300 bgs (33,201 lbs (Prosperity) Padang, 6/23.
Intl Brokers 256 bgs (33,442 lbs) (Prosperity) Padang, 6/23.
Louis Furth 320 bgs (55,820 lbs) (Prosperity) Padang, 6/23.
McCormick 480 bgs (67,196 lbs) (Prosperity) Padang, 6/23.
Order 1,644 bgs (257,595 lbs) (Prosperity) Padang, 6/23.
Otto Gerdau 360 bgs (44,533 lbs0 (Prosperity) Padang, 6/23.
Van De Vries Trdg 621 bgs (89,553 lbs0 (Prosperity) Padang, 6/23.
CASSIA OIL Order 69 dms (19,202 lbs) (Ever Going) Hong Kong, 6/16.
CASSIA VERA AA Sayla 44 bdl (0 lbs0 (Prosperity) Padang, 6/23.
330 col (37,831 lbs) (Prosperity) Padang, 6/23.
Aphrodisia Products 270 bls (24,251 lbs0 (Lust Maersk) Singapore, 6/19.
Louis Furth 1212 pkg (15,856 lbs) (Prosperity) Padang, 6/23.
McCormick 100 pkg (11,464 lbs) (Prosperity) Padang, 6/23.
Moller Steamship 357 bgs (44,092 lbs) (Laust Maersk) Singapore, 6/19.
Morris J Golombeck 287 ctn (23,214 lbs) (Prosperity) Padang, 6/23.
Order 49 ctn (2,284 lbs) (Prosperity) Padang, 6/23.
Shah Trdg 101 bgs (8,818 lbs) (Regina Maersk) Singapore, 7.10.
CASTOR OIL Cray Valley Products 22 bxs (0 lbs) (Kazimierz Pulaski) Rotterdam, 6/30.
CAUSTIC SODA Order of Shipper 1 bks (8,809,662 lbsa) (Stolt Sydness) Atnwarp, 6/21.
CELERY SEED A Kazemi 170 bgs (22,487 lbs) (Jebel Ali) Dubai, 6/19.
Fritzsche Dodge & Olcott 426 bgs (57,476 lbs) (Jebel Ali) Dubai, 6/19.
McCormick 510 bgs (67,462 lbs) (Sea Land Express) Rotterdam, 6/19.
CHINA CLAY Hammill & Gillespie 600 sks (69,066 lbs) (Ever Guard) Felixstowe, 6/15.
BONE GLUE AGA Chemical 1,020 bgs (114,685 lbs) (Chao He) Shanghai, 6/17.
China Interocean Transport 680 bgs (76,457 lbs) (Chao He) Shanghai, 6/17.
CHLORODIFLUOROMETHANE Kali Chemie 1 tnk (36,817 lbs) (Pilar) Barcelona, 6/16.
CHLOROTHIAZIDE Haniel Phoenix Tranport 61 pkg (9,643 lbs) ((Pilar) Leghorn, 6/16.
CHROMIUM OXIDE Leschaco 760 bgs (39,466 lbs) (Falmouth Bay) Rotterdam, 6/16.
Leschaco 760 bgs (39,466 lbs) (Falmouth Bay) Rotterdam, 6/16.
CINNAMIC ALCOHOL Chemical Dynamics 43 dms (20,666 lbs) (Alexandra) Rotterdam, 65/16.
CITRIC ACID Karl Schroff 720 bgs (80,316 lbs) (Valiant) Istanbul, 6/21.
CITRONELLA OIL Order 80 dms (35,697 lbs) (Chao He) Hong Kong, 6/17.
78 dms (34,458 lbs) (American Georgia) Buenos Aires, 6/19.
Order of Shipper 28 dms (12,161 lbs) (American Georgia) Buenos Aires, 6/19.
CLEVES ACID Motnedison 60 dms (17,612 lbs) (Susak) Trieste, 6/23.
CLOVE OIL Meadows Wye 10 dms (1,378 lbs) (Numberg Express) Hamburg, 6/17.
CLOVES Durkee Foods 300 bgs (33,598 lbs) (Santa Catarina) Salvador, 6/21.
CUMIN SEED Franklin Trdg 700 bgs (92,593 lbs) (Jebel Ali) Kandla, 6/19.
Louis Furth 185 bgs (53,949 lbs) (Oriental Legend) Singapore, 6/17.
Morris J Golombeck 334 bgs (44,,180 lbs) (Jebel Ali) Kandla, 6/19.
CYANURIC ACID Schenectady Chemicals 720 bgs (40,882 lbs) (Kazimierz Pulaski) Bremerhaven, 6/30.
Degussa 400 dms (45,556 lbs) (Numberg Express) Antwerp, 6/17.

D

DEXTROSE Roquette 399 bgs (40,313 lbs) (Atlantic Star) Le Havre, 6/18.
Roquette 398 bgs (44,354 lbs) (Atlantic Star) Le Havre, 6/18.
dl-n-HEXYLAMINE Haniel Phoenix Tranpsort 25 brl (0 lbs) (Sea Land Express) Bremerhaven, 6/19.
4,4-DIAMINODIPHENYL METHANE Ciba Geigy 242 dms (42,628 lbs) (Atlantic Conveyor) Liverpool, 6/20
DIATAMACEOUS EARTH Jagro Custom House Brokers 3 brl (736 lbs) (Falmouth Bay) Bremerhaven, 6/16
DICHLORODIFLUOROMETHANE Kali Chemie 1 tnk (41,887 lbs) (Pilar) Barcelona, 6/16
DICHLOROMETHANE Cpc 1 ctn (18 lbs) (Kazimierz Pulaski) Bremerhaven, 6/30
DICYANDIAMIDE James A Fox 830 bgs (42,784 lbs) (Ever Guard) Hamburg, 6/15
DIETHYL OXALATE Order 76 dms ([illegible] lbs) (Humburg Express) [illegible], 6/17
DIETHYLENE GLYCOL WR Grace 20 dms (4,598 lbs) (Act 65) Melbourne, 6/22
DIHYDRO-ALPHA-IONONE Haniel Phoenix Transport 1 brl (0 lbs) (Sea Land Express) Bremerhaven, 6/19.
5,5-DIMETHYLHYDANTOIN Order 600 bgs (26,587 lbs) (New York Maru) Tokyo, 6/19.
dl-ISOBUTYLENE Order of Shipper 1 bks (1,541,613 lbs) (Stolt Spur) Yokohama, 6/26.
dl-ISONAPHTHALENE Order of Shipper 1 bks (1,102,102 lbs) (Stolt Spur) Yokohama, 6/26.
DIULL WEED OIL Max Gruenhut 56 dms (0 lbs) (Sea Land Express) Rotterda, 6/19.
DIMETHYLSUCCINYL SUCCINATE American Shpg 1 con (42,857 lbs) (Wladyslaw Sikorsk) Bremerhaven, 7/8.
DIMETHYLSULFOXIDE Order 76 dms (38,536 lbs) (Jebel Ali) Fos, 6/19.
DIPHENYLMETHANE DI-ISOCYANATE MG Transport Warehouse 3 brl (1,819 lbs) (American Envoy) Bremerhaven, 6/21.
3 pkg (77 lbs) (American Envoy) Bremerhaven, 6/21.
DISODIUM 5-INOSINATE Ajinomoto 150 ctn (3,968 lbs) (New YUork Maru) Tokyo, 6/19.
dl-PHENYLPROPANOLAMINE Mitrans 95 dms (11,729 lbs) (Oriental Patriot) Kobe, 6/23.
KOLA NUTS D Steengrafe 160 bgs (0 lbs) (Tana) Tema, 6/19.
DRY COLOR JM 184 dms (20,772 lbs) (Atlantic Conveyor) Liverpool, 6/20.
DYES American Import Service 10 dms (1,257 lbs) (American Envoy) Rotterdam, 6/21.
Orient Chemical 10 dms (1,190 lbs) (Oriental Freedom) Kobe, 6/13.
Daniel F Young 6 dms (1,726 lbs) (Atlantic Conveyor) Liverpool, 6/20.
Cosmos Shpg 20 dms (1,235 lbs) (Oriental Freedom) Kobe, 6/13.
Osakagodo America 34 dms (2,698 lbs) (Laust Maersk) Tokyo, 6/19.
38 pkg (2,952 lbs) (Laust Maersk) Tokyo, 6/19.
Carolina Color Chemical 12 dms (772 lbs) (Jebel Ali) Bombay, 6/19.
Dunlap Alpers & Mott 60 dms (17,577 lbs) (New York Maru) Kobe, 6/19.
Livingston Intl Freight 34 dms (2,579 lbs) (Ever Going) Keelung, 6/16.
50 dms (3,196 lbs) (Ever Going) Osaka, 6/16.
Order 80 dms (5,256 lbs) (Jebel Ali) Dubai, 6/19.
Passaic Color & Chemical 840 ctn (68,335 lbs) (Chao He) Hsinkang, 6/17.

E

ENZYMES Novo Laboratories 72 dms (40,690 lbs) (Sea Land Expresrsa) Bremerhaven, 6/19.
Novo Laboratories 292 dms (162,816 lbs) (Atlantic Conveyor) Gothenburg, 6/20.
EPOXY RESIN H&C Ind 72 dms (39,334 lbs) (Ever Going) Keelung, 6/16.
EPSOM SALTS Potash Import & Chemical 800 bgs (88,436 lbs) (Numberg Express) Bremerhaven, 6/17.
Qualchem 4,000 bgs (403,634 lbs) (TFL Jefferson) Bremerhaven, 6/23.
ESSENTIAL OILS Order 94 pkg (30,573 lbs) (Nedlloyd Rotterdam) Marseille, 6/17.
Rbd 39 mix (9,281 lbs) (Kazimierz Pulaski) Le Havre, 6/30.
Scac Transport 19 dms (7,099 lbs) (Kazimierz Pulaski) Le Havre, 6/30.
2-ETHYLBUTANOL Order 1 tnk (35,230 lbs) (Ever Guard) Rotterdam, 6/15.
ETHYL SILICATE Wolf D Barth 5 dms (2,612 lbs) (Dart Americana) Felixstowe, 6/18.
ETHYLENE-ACRYLATE COPOLYMER Schenkers Intl Fwdrs 140 bgs (7,844 lbs) (New York Maru) Tokyo, 6/19.
ETHYLENE-VINYL CHLORIDE COPOLYMER Toyo Soda 756 ctn (42,752 lbs) (New York Maru) Tokyo, 6/19.
756 bgs (44,180 lbs) (Oriental Patriot) Yokohama, 6/23.
Toyo Soda 756 bgs (42,752 lbs) (Laust Maersk) Tokyo, 6/19.

F-G

FATTY ACID Allround Fwdg 1 tnk (43,387 lbs) (TFL Jefferson) Bremerhaven 6/23.
Henkel 4,000 bgs (179,013 lbs) (Falmouth Bay) Rotterdam, 6/16.
2,474 bgs (111,266 lbs) (TFL Jefferson) Rotterdam, 6/23.
Henkel 1 tnk (42,372 lbs) (Alexandra) Rotterdam, 6/16.
FENNEL SEEDS AA Sayla 1125 bgs (16,535 lbs) (Jebel Ali) Dubai, 6/19.
FENNUGREEK SEEDS Morris J Golombeck 400 bgs (44,092 lbs) (Valiant) Izmir, 6/21.
Louis Furth 198 bgs (33,400 lbs) (Jebel Ali) Dubai, 6/19.
FENNEL SEEDS McCormick 600 bgs (67,461 lbs) (Ever Going) Hong Kong, 6/16.
FISH LIVER OIL Order 3 dms (1,376 lbs) (Numberg Express) Hamburg, 6/17.
Wollnsky 2,720 bgs (151,929 lbs) (Chao He) Qingdao, 6/17.
FLUOROBENZENE Order 50 dms (24,471 lbs) (Numberg Express) Bremerhaven, 6/17.
FLUOROCARBON POLYMER Nichimen 5 cyl (1,587 lbs) (Laust Maersk) Kobe, 6/19.
Schenkers Intl Fwdrs 475 dms (41,892 lbs) (New York Maru) Shimizu, 6/19.
Viking Sea Freight 294 dms (32,192 lbs) (New York Maru) Kobe, 6/19.
FORMALDEHYDE RESIN DOnes 36 pkt (46,255 lbs) (Sea Land Pioneer) Leghorn, 6/17.
FORMAMIDE Order 1 bks (883,866 lbs) (Lucor Manor) Birkenhead, 6/20.
FURFURYL ALCOHOL Order of Shipper 1 bks (1,101,546 lbs) (Stolt Falcon) Durban, 6/25.
GAMMA ACID Leyden Customs Expediters 200 bls (11,155 lbs) (Oriental Patriot) Hong Kong, 6/23
GELATIN Blue Anchor 25 dms (7,449 lbs) (Numberg Express) Greenock, 6/17.
OSK Lines 680 bgs (38228 lbs) (New York Maru) Kobe, 6/19.
Olypic Adhesive 680 bgs (38228 lbs) (New York Maru) Kobe, 6/19.
Olympic Adhesives 450 bgs (39,782 lbs) (American Georgia) Santos, 6/19.
Peter Cooper 800 dms (187,832 lbs) (Ever Superb) Fos, 6/21
Peter Cooper 800 bgs (45 415 lbs) (Ever Superb) Fos, 6/21
GLUE Marshall Erdmann & Assoc 2 brl (500 lbs) (Wladyslaw Sikorsk) Bremerhaven, 7/8
Martec Intl Trdg 86 pkg (1,12479 lbS) (Humburg Express) Hamburg, 6/17
GLYCERINE Contrade 1 bks (1,145,678 lbs) (Lucor Manor) Antwerp, 6/20
[illegible] & Chemical 64 dms (47,5[illegible] lbs) (Arturo [illegible]) [illegible], 6/24
Rhone Poulenc 106 dms ([illegible] lbs) (Atlantic Star) Le Havre, 6/18
GLYCEROL TRIACETATE Croda Formarals 2 tnk ([illegible] lbs) (Alexandra) Felixstowe, 6/16
GLYOXYLIC ACID Order 68 dms (40,476 lbs) (Dart Americana) Le Havre, 6/18
GRANULE DCLEN Mitrans 400 bgs (20547 lbs) (Oriental Freedom) Kobe, 6/13.
GRAPESEED OIL Votainer Consolidation Servi 25 brl (11,464 lbs) (Kazimierz Pulaski) Bremerhaven, 6/30.
GUAR GUM Meer 870 bgs (44,090 lbs) (Jebel Ali) Dubai, 6/19.
Polypro Intl 795 bgs (40,545 lbs) (Arild Maersk) Dubai, 6/16.
1,590 bgs (81,090 lbs) (Jebel Ali) Dubai, 6/19.
Tic Gums 700 bgs (35,787 lbs) (Pilar) Valencia, 6/16.
PL Thomas 800 bgs (40,706 lbs) (Jebel Ali) Dubai, 6/19.
PL Thomas 840 bgs (42,741 lbs) (Jebel Ali) Dubai, 6/19.
Meer 800 bgs (40,618 lbs) (Jebel Ali) Dubai, 6/19.
STTC Gums 800 bgs (89,487 lbs) (Oriental Legend) Singapore, 6/17.
GHATTI GUM Meer 200 bgs (40,605 lbs) (Nedlloyd Rotterdam) Bombay, 6/17.
Celanese 166 bgs (34,035 lbs) (Jebel Ali) Dubai, 6/19.

H-L

HEXADECYL MERCAPTAN AllTransport 9 can (0 lbs) (Atlantic Star) Le Havre, 6/18.
HIDE GLUE Interocean Transport 340 bgs (38,228 lbs) (Chao He) Shanghai, 6/17.
Velleman 340 bgs (37,553 lbs) (Aconcagua) Valparaiso, 6/15.
HYDRAZINE HYDRATE Order 80 dms (37,434 lbs) (Nedlloyd Rotterdam) Marseille, 6/17.
2-HYDROXYETHYL METHACRYLATE BP Oil 40 pkg (18,695 lbs) (Alexandra) Felixstowe, 6/16.
HYDROXYLAMINE SULFATE Virginia Chemicals 6720 bgs (40,992 lbs) (Alexandra) Rotterdam, 6/16.
IBUPROFEN Order 35 pkg (3,836 lbs) (Laust Maersk) Kobe, 6/19.
IMIDAZOLIDINYL UREA Natural Nydegger Tranpsorts 4 dms (0 lbs) (Atlantic Star) Le Havre, 6/18.
ISOPHTHALIC ACID Sisas 1,400 bgs (78,748 lbs) (Ever Superb) Leghorn, 6/21.
FENNEL SEED Louis Furth 255 bgs (74,363 lbs) (Oriental Legend) Singapore, 6/17.
INOSITOL Byron Chemical 80 dms (51,115 lbs) (Chao He) Shanghai, 6/17.
M Gurvey & Barry 40 dms (2,564 lbs) (Chao He) Shanghai, 6/17.
Daniel F Young 80 dms (11,431 lbs) (Oriental Patriot) Hong Kong, 6/23.
Karl Schroff 40 dms (5,717 lbs) (Oriental Patriot) Hong Kong, 6/23.
Order 40 dms (2,593 lbs) (Oriental Patriot) Hong Kong, 6/23.
Taub Hummel & Schnall 80 dms (5,185 lbs) (Oriental Patriot) Hong Kong, 6/23.
IRON OXIDE Leschaco 1,560 bgs (81,184 lbs) (TFL Jefferson) Rotterdam, 6/23.
Orgo Thermit 34 dms (38,752 lbs) (Wladyslaw Sikorsk) Rotterdam, 7/8.
Trans World Shpg 720 bgs (40,741 lbs) (American Envoly) Felixstowe, 6/21.
ISOVALERIC ACID Haniel Phoenix Transport 8 brl (0 lbs) (Sea Land Express) Bremerhaven, 6/19.
ISOPHORONE DIAMINE Noudex 80 dms (35,536 lbs) (Falmouth Bay) Rotterdam, 6/16.
Nuodex 160 dms (71,076 lbs) (Kazimierz Pulaski) Rotterdam, 6/30.
ISOPHTHALIC ACID Sisas 700 bgs (39,374 lbs) (Jebel Ali) Genoa, 6/19.
J ACID Oriex Chemicals 576 dms (59,815 lbs) (Ever Going) Hong Kong, 6/16.
L-ARGININ BASE Francesco Parisi 20 dms (2425 lbs) (Alexandra) Bremen, 6/16.

Continued on Page 49

CHEMICAL PRICES

WEEK ENDING AUGUST 1, 1986

This chemical prices section contains spot quotations and/or list prices of suppliers of chemicals and related materials on a New York or other indicated basis. The listings are based on price information obtained from suppliers. Note that posted prices do not necessarily represent levels at which transactions actually may have occurred. They do not represent bid and asked prices, nor a range of prices over the week. Price ranges may represent quotations of different suppliers as well as differences in quantity, quality and location. All matters under this heading are fully covered by copyright.

An index of weekly chemical market reports is on the back cover.

A

Abies siberica oil, cns. ... lb.	15.00	-
Acetaldehyde, 99%, tanks, frt. alld. lb.	.37	-
Prices 1c. higher in West.		
Acetaminophen (see N-Acetyl-p-aminophenol)		
Acetanilide, tech, flaked, bgs, t.l., f.o.b. works ... lb.	1.29	-
Acetic acid, tech., tanks, dlvd. E ... lb.	.25	-
Acetic anhydride, tanks, dlvd. E ... lb.	.43½	-
Acetic anhydride prices 1c. higher in West.		
Acetoacetanilide, dms., t.l., dlvd. ... lb.	1.29	-
Acetoacet-o-anisidide, dms., t.l., dlvd. ... lb.	2.70	-
Acetoacet-o-chloroanilide, dms., t.l., dlvd. ... lb.	2.85	-
Acetoacet-o-toluidide, dms., t.l., dlvd. ... lb.	1.58	-
Acetoacet-m-xylidide, dms., t.l., dlvd. ... lb.	3.33	-
Acetone, tanks, dlvd. E ... lb.	.25	-
dlvd. Zone 2 (Calif.) ... lb.	.27	-
dlvd. Zone 3 (W. of Rockies excluding Calif.) ... lb.	.27	-
Acetonitrile, tanks, frt. alld. ... lb.	.53	.54½
Acetophenetidin (see Phenacetin).		
Acetophenone, tech., tanks, f.o.b. works ... lb.	.76	.85
perfume grade, extra, cns. ... lb.	2.15	-
N-Acetyl-p-aminophenol, c.l., t.l. works ... kilo	5.95	6.64
Acetylene black, imp., 50% compressed, 12½-lb. bgs. c.l., t.l. frt. extra ... lb.	.96	-
100%, 25-lb. bgs., same basis ... lb.	.95½	-
Acetylene tetrabromide, tanks, f.o.b. works ... lb.	.97	-
Acetylsalicylic acid, USP (see Aspirin).		
Acetyltributyl citrate, bulk, f.o.b. works ... lb.	1.28	-
Acetyltriethyl citrate, bulk, f.o.b. works ... lb.	2.06	-
Acrolein, tech., tanks, works ... lb.	.82	-
Acrylamide, solid, t.l. works ... lb.	1.00	-
soln., 100% basis tanks, works. ... lb.	.74	.77
Acrylic acid, glacial, reg., tanks, dlvd. ... lb.	.87	-
tech., tanks, frt. alld. ... lb.	.80	-
Acrylonitrile, tanks, works ... lb.	.39½	.45½
Acrylonitrile-butadiene-styrene resin, high-impact, nat., t.l., dms., dlvd. ... lb.	1.05	1.09
medium-impact, nat., same basis lb.	.94	.98
low-impact, nat., same basis ... lb.	.75	-
Adipic acid, resin grade, bulk, hopper cars, frt. equald. ... lb.	.57	-
bgs., t.l., c.l. frt. equald. ... lb.	.59	-
Agar USP, powd., 60 to 100 mesh., dms. ... lb.	9.50	9.85
Alcohol, syn, C-6 to C-10, tanks, f.o.b. works ... lb.	.38	-
C-12 to C-13, tanks, dlvd. ... lb.	.57	.59
C-14 to C-15, tanks, dlvd. ... lb.	.57	-
C-16 to C-18, tanks, dlvd. ... lb.	.60	-
Aldehyde, C-6, dms. ... lb.	4.10	5.70
C-7, dms. ... lb.	1.95	-
C-8, dms. ... lb.	4.30	6.30
C-10 dms. ... lb.	4.30	5.35
Algin (see Sodium alginate.)		
Alkali blue, dry, flushed, 110-lb. dms, dlvd. ... lb.	3.72	3.83
Alkali blue prices 1c. higher W. of Rockies.		
Allspice Guatemalan / Honduran, bgs. ... lb.	1.00	-
Jamaican, bgs. ... lb.	1.05	-
Allyl alcohol, tanks, f.o.b., Bayport, Tex. ... lb.	.90	-
Allyl bromide, 500-kilo dms. 2,000 lbs. or more, works ... lb.	5.50	-
Allyl caproate, 25-lb. cns. ... lb.	3.90	4.50
Allyl chloride, tanks, f.o.b. works ... lb.	.65	-
Allyl isothiocyanate, bots. ... lb.	6.40	6.90
Almond oil, artif., bitter (see Benzaldehyde.)		
Almond oil, nat. bitter, NF f.f.p.a. bots. ... lb.	3.50	3.60
sweet ... lb.	1.24	1.50
Aloe, Cape, cs. ... lb.	2.00	-
powd., cs. ... lb.	2.25	2.75
Curacao, kgs. ... lb.	2.60	-
powd., kgs. ... lb.	3.00	-
Aloin, NF, dms. ... lb.	6.00	6.70
Alum, ammonium, tech. gran. bgs., c.l., t.l., works ... 100 lb.	35.00	-
FCC powd., fiber dms., works 100 lbs.	55.00	-
Alum, potassium, tech. gran. bgs., c.l., t.l., works. ... 100 lbs.	35.00	-
FCC powd. fiber dms., works. 100 lbs.	55.00	-

Alumina, activated, gran., 100-lb. bgs., 40,000-lb. min. c.l., works. ton	821.00	-
calcined, bulk, same basis ... ton	354.00	-
100-lb. bgs., same basis ... ton	380.00	-
hydrated, white, bulk, same basis ... ton	190.00	-
100-lb. bgs., same basis ... ton	224.00	-
Aluminum acetate, basic, dms., l.c.l., works ... lb.	3.25	-
Aluminum chloride, anhyd., soln., 500-600 lb. dms., c.l., t.l., works, frt. equald. ... lb.	.50	.55
bulk, same basis ... lb.	.45½	.49½
semi-bulk bins, same basis ... lb.	.48	.53
Aluminum chloride, coml., soln., 32° tanks, works ... 100 lbs.	15.00	-
ret. dms., c.l., works ... 100 lbs.	12.00	-
non-ret. dms., same basis. 100 lbs.	20.00	-
Aluminum formate, dibasic, liq. 8% Al_2O_3 t.l., works ... lb.	.55	-
Aluminum hydrate (see Alumina, hydrated)		
Aluminum hydroxide, dried, gel, NF, 75-lb. dms., c.l., t.l., works. lb.	2.75	3.50
Aluminum metal, 99½% or more, 50-lb. pigs., 30,000-lb. lots, frt. alld. ... lb.	.76	-
Aluminum oxide amorphous (see Alumina, calcined).		
Aluminum paste, leafing grade, std.,lining, 2,400 lb. lots, dlvd. ... lb.	1.40	-
lining, extra-fine, same basis ... lb.	1.99	2.14
Aluminum phenolsulfonate, purif., 100-kilo dms., t.l. ... kilo	6.46	-
Aluminum powder, leafing grade, std. lining, 2,400 lb. lots, dlvd. . lb.	3.17	-
extra fine, lining, same basis ... lb.	4.04	-
Aluminum stearate, bgs., c.l. ... lb.	1.25	1.37
Aluminum sulfate, coml., grd., 100 lb. bgs., c.l., works, frt. equald., basis 17% Al_2O_3 East and Gulf Coasts ... ton	185.00	-
West Coast ... ton	217.80	-
liq., tanks, N.E. same basis ... ton	146.00	-
iron-free, dry, bgs., c.l. same basis ... ton	300.00	-
liq., tanks, same basis ... ton	225.00	265.00
Aluminum sulfate, USP, gran., dms. lb.	-	.337
Aminoacetic acid, USP, dms., 20,000 lbs., f.o.b. works ... lb.	2.12	-
tech., t.l., same basis ... lb.	1.88	-
p-Aminobenzoic acid, 1,000 kilos or more, dms., f.o.b. works . kilo	9.60	10.10
2-Amino-4-chlorophenol dry and grd., 14,000 lbs. or more, frt. alld. lb.	6.79	-
Aminoethyl ethanolamine, tanks, frt. collect ... lb.	1.33½	-
N-Aminoethyl piperazine, tanks, f.o.b., frt. collect ... lb.	1.05	-
2-Amino-2-ethyl-1,3-propanediol dms., t.l. f.o.b. works ... lb.	1.82	-

2-Amino-2-methyl-1-propanol, 95%, dms., c.l., t.l., f.o.b. works lb	.95	
tanks, f.o.b. works ... lb	.63	
o-Aminophenol, dms., f.o.b. Charlotte, N.C. ... lb	3.95	
p-Aminophenol, t.l. dms., f.o.b. Raleigh, N.C ... kilo	7.15	
p-Aminosalicylic acid, USP, 50-kilo dms., t.l. ... kilo	18.50	
Ammonia, anhyd., fertilizer, wholesale, tanks, dlvd. Midwest terminals ... ton	165.00	170.00
tankcars, f.o.b. Gulf Coast . ton	80.00	85.00
aqueous, 29.4% NH_3, anhyd. basis, tanks, frt. equald. E. of Rockies ... ton	260.00	315.00
Ammoniacal liquor (see Ammonia, aqueous)		
Ammoniac sal, galvanizing grade, bgs., c.l., f.o.b. works ... 100lbs	28.60	-
Ammoniac sal. white (see Ammonium chloride coml.)		
Ammonium biborate, gran., dms., c.l. works ... lb	.90	-
Ammonium biborate powder 15c per lb higher		
Ammonium bicarbonate, 300-lb dms., c.l., works ... 100 lbs.	28.00	-
bgs., c.l. ... 100 lbs	25.00	-
Ammonium bichromate, photo-litho grade, gran. 100-lb. dms., l.t.l works ... lb	2.00	-
Ammonium bifluoride, bgs., t.l., works ... lb.	.70	-
Ammonium bromide, dom. NF, gran., dms., c.l., t.l., f.o.b. works. lb.	1.31	-
Ammonium chloride, white, tech., fine gran., bgs., c.l., works ... 100lbs.	18.00	-
USP, gran., dms. ... lb.	.40	.53
Ammonium citrate, dibasic, 250-lb. dms. f.o.b. works ... lb.	2.79	-
Ammonium dimolybdate, approx. 85%, 24,000 lbs. or more . lb.	5.48	-
Ammonium fluoborate, tech., dms., c.l., t.l., works, frt. equald. . lb.	1.79	-
Ammonium heptamolybdate, cryst., dms., 24,000 lbs. f.o.b. works ... lb.	5.57	-
Ammonium lauryl sulfate, tanks, f.o.b. works ... lb.	.29	.32
Ammonium lignin, sulfonate, bulk, f.o.b. Hoquiam, Ore. ... ton	72.00	-
Ammonium nitrate, dom., fertilizer grade, 33.5% N, bulk, S.E. dlvd. ... ton	130.00	135.00
Ammonium oxalate, tech., fine gran. 300-lb. dms., t.l., f.o.b. works ... lb.	1.42	1.68
Ammonium pentaborate gran. bgs., c.l., works ... lb.	.75	-
Ammonium pentaborate powder 20c. per lb. higher.		
Ammonium persulfate, 225-lb. dms, 24,000 lbs. or more, f.o.b. works ... lb.	.58	-
55-lb. bgs., same basis ... lb.	.56½	-
Ammonium phosphate (see Di- and monoammonium phosphates).		
Ammonium silicofluoride, dms. c.l., t.l., works ... lb.	.30¾	-
Ammonium sulfate, lg. gran., bulk, c.l., works ... ton	80.00	90.00
std., coml., bulk, f.o.b. works .. ton	60.00	70.00
tech., bgs., c.l., t.l., works ... ton	108.00	120.00
Ammonium sulfide, liq., 40-44% tanks, 100% basis, frt. equald. . ton.	460.00	-
Ammonium sulfocyanide, tech. (see Ammonium thiocyanate).		
Ammonium thiocyanate, tech., cryst., bgs., c.l., works ... lb.	1.02	-
tech soln., 50%, tanks, frt. equald. ... lb.	.93	-
Ammonium thiosulfate, photographic, 60%, tanks, f.o.b. works .. lb.	.13	-
Ammonium zirconyl carbonate, soln., bulk ... lb.	.72	-
Amyl acetate, primary mixed isomers, tanks, dlvd. ... lb.	.57	-
Amyl alcohol, primary mixed isomers, tanks, frt. alld. ... lb.	.46½	-
Amyl cinnamic aldehyde, dms. ... lb.	2.35	2.50
p-tert-Amylphenol, bulk, works ... lb.	.91	1.03
Amyris oil, dms. ... lb.	11.50	12.25
Anethole, tech., dms. ... kilo	10.20	-
USP, dms. ... lb.	3.65	4.60
Angelica root oil, bots. ... kilo	700.00	-
Aniline, tanks, f.o.b. ... lb.	.33	.35½
Anise oil, dms. ... kilo	11.75	-

[illegible] ... lb	.63	-
[illegible] ... lb	.94	.97
[illegible] ... lb	.62	.60
[illegible] ... lb	4.80	5.40
[illegible] ... lb	2.27	-
[illegible] dms., works ... lb	1.90	-
[illegible] ... lb	2.25	-
[illegible] dms., [illegible] ... lb.	1.70	-
Antimony [illegible] 175-lb. dms. [illegible] works ... lb	3.02	-
Antimony [illegible] ... lb.	1.35	1.39
Antimony [illegible] ... lb	1.50	-
Antimony [illegible] ... lb	3.60	-
[illegible] NF bots. ... gm	15.00	-
[illegible] dms ... lb	2.05	-
[illegible] ... lb	1.85	2.15
[illegible] ... lb	2.00	2.50
USP grade ... lb.	8.75	9.25
Aromatic petroleum solvents (see Solvent, naphtha, petroleum aromatic)		
Arsenic crude (see Arsenous trioxide)		
Arylid red (see Naphthol arylid red)		
Arsenous trioxide crude 95%, bulk, c.l. f.o.b. Tacoma Wash ton	800.00	-
Asbestine (see Talc fibrous)		
Ascorbic acid, USP, 100 kilos, dlvd ... kilo	9.00	10.50
Ash, black (see Barium sulfide)		
Asphalt gilsonite (see Gilsonite)		
Asphalt petroleum cutback, tanks, E Coast ... gal	86	-
emulsion, tanks, tankwagons, E Coast ... gal	68	-
steam-refined 40-300 penetration, tanks, tankwagon ... ton	170.00	-
steep roofing grade, bulk tankwagon ... ton	175.00	-
Aspirin USP, cryst., powd., 250-lb dms., c.l. f.o.b. ... lb	1.95	
10% starch granulation, white, 250-lb dm. c.l. f.o.b. ... lb	1.97	
16% starch granulation, white, same basis ... lb	2.60	
Freight equald. shipt. identical quantity over standard routes from N.Y., Phila., Midland, Mich., Chicago and St. Louis		
Atropine sulfate, USP bots ... oz	10.00	11.0
Avocado oil, dms ... lb	4.00	4[illegible]
Azelaic acid, tech., 50 lb bgs., t.l., c.l. dlvd ... lb	1.23	-
Azo orange, bbls., dlvd ... lb	4.60	-
Azo yellow, 10 G, bgs., dlvd E of Rockies ... lb	4.40	-
Azo G yellow pigment, bgs., same basis ... lb	2.45	-

B

Bacitracin, USP, non-sterile, one billion units or more ... million units	6.30	6.80
Barbital, NF, 50 kilo dms., dlvd ... kilo	22.50	-
Barbital-sodium, NF, 50 kilo dms dlvd ... kilo	23.00	-
Barite, dry grd., Southern, off-color, coarse, bgs., c.l., f.o.b. mines lb	.09	.11
water-grd., white, bgs., c.l., f.o.b. works ... lb	.13	-
unbleached, extra-fine, pigment grade, c.l., f.o.b. works ... ton	160.00	-
Barium carbonate, precip., bulk, c.l., works, frt equald ... lb	.25	-
bgs., same basis ... lb.	.25½	-
photo grade, bgs., same basis ton	510.00	-
Barium chlorate, 100-lb. dms., 1-10 dm lots, works ... lb.	1.04	
Barium chloride, tech., cryst., bgs., c.l., works ... ton	470.00	-
anhyd drums c.l., same basis ton	500.00	-
Barium chloride, purif., cryst. 400-lb. dms., works ... lb.	3.76	-
Barium monohydrate, 55 lb. bgs., c.l., t.l. f.o.b. works ... 100 lbs.	46.00	-
octahydrate, cryst., bgs., same basis ... 100 lbs.	33.00	-
Barium nitrate, 100-lb. bgs., t.l., works ... 100 lbs.	32.50	-

ABBREVIATIONS

THE TERMINOLOGY OF THE CHEMICAL MARKETPLACE

a/alpha
alld./allowed
amorph./amorphous
AMP/American melting point
anhyd./anhydrous
AOAC/Association of Official Agricultural Chemists
a.p.a./available phosphoric acid
approx./approximately
artif./artificial
ASTM/American Society for Testing & Materials

b/beta
Be/Baume
bbls./barrels
b.g./beta-gamma
bgs./bags
bls./bales
bots./bottles
b.p./boiling point
b.p.l./bone phosphate of lime
b.r./boiling range
bxs./boxes

C./Centigrade
cbys./carboys
c.c./cubic centimeters
CD/completely denatured
c.i.f./cost insurance freight
c.l./carload
cns./cans
coml./commercial
conc./concentrated
cp/chemically pure
cps./centipoises
cryst./crystalline
cs./cases
ctns./cartons
cyls./cylinders

d-/dextro
dbl./double
denat./denatured
dest.-dist./destructively distilled
dl/dextro-laevo
dist./distilled
distr./distributor
dlvd./delivered
dms./drums
dom./domestic

E/East
e.p./end point
equald./equalized
exp./expressed
extr./extracted

F./Fahrenheit
f.a.s./free alongside
ferment./fermentation
f.f.a./free fatty acid
f.f.c./free from chlorine
f.f.p.a./free from prussic acid
fib./fiber
f.o.b./free on board
f.p./freezing point
frt./freight

g-/gamma
gal./gallon
g.p./general purpose
gran./granular
grd./ground

i.b.p./initial boiling point
imp./imported

incl./included
indust./industrial

kgs./kegs

l-/laevo
lb./pound
l.c.l./less carload
l.t.l./less truckload
liq./liquid

m-/meta
m.a.p./mixed aniline point
mcg./microgram
mfrs./manufacturers
min./minimum
molt./molten
m.p./melting point

N/nitrogen
n-/normal
nat./natural
neut./neutral
NF/National Formulary
No./number
Nom./nominal

o-/ortho
ord./ordinary
oz./ounce

P/phosphorus
p-/para
Pac./Pacific
pf./proof
phos./phosphate
photo/photographic
pkgs./packages
powd./powdered
precip./precipitated
prod./producer
pt./point
pulv./pulverized
purif./purified

redist./redistilled
refd./refined
refy./refinery
resub./resublimed
ret./returnable

SD/specially denatured
s.d./single distilled
SE/Southeast
sec./secondary
secs./seconds
sp.g./specific gravity
shpt./shipment
soln./solution
std./standard
syn./synthetic

tanks/railroad tankcars
tech./technical
tert./tertiary
t.l./truckload
ton/refers to short ton of 2,000 pounds
TVA/temporary voluntary allowance
t.w./tankwagons

USP/United States Pharmacopeia

vis./viscosity
VM&P/varnish makers & painters

W/West
whse./warehouse
w.w./water white

NOTE: A unit-ton is 1 percent of 2,000 pounds of the basic constituent or other standard of the material. The percentage figure of the basic constituent multiplied by the unit-ton price shown in Chemical Marketing Reporter gives the price of 2,000 pounds of the material.

Barium oxide, grd., dms., c.l., dlvd. ... 100 lbs.	31.25	-
tote bins, same basis ... 100 lbs.	30.00	-
Barium peroxide, 700-lb. dms., c.l., t.l., works ... lb.	.30	-
Barium stearate, bulk, t.l., f.o.b. dest. ... lb.	1.05	-
Barium sulfate, tech. (see Barite and Blanc fixe).		
Barium sulfate, USP, X-ray diagnosis grade, powd., 25 kilo bgs., 10,000 kilo lots ... lb.	.58½	-
Barium sulfide (black ash), dms., c.l., works ... ton	460.00	-
Basil Egyptian ... lb.	.75	.85
French ... lb.	.88	.90
Basil oil, Comores ... lb.	90.00	-
Basil oil, Grand Vert ... lb.	45.00	-
Battery acid, t.l., f.o.b., works ... ton	52.00	70.75
Bauxite, calcined, refractory grade, 87¾-88% Al_2O_3, Baltimore & Mobile ... metric-ton	229.28	-
Bay oil, NF, 55-60%, dms. ... lb.	10.50	15.00
Bayberry wax, bgs. ... lb.	2.70	3.00
Beeswax, refd., bleached white, bricks, 100-lb. ctns. ... lb.	3.10	3.20
white, slabs, 100-lb. ctns. ... lb.	3.05	3.10
yellow, bricks, 100-lb. ctns. ... lb.	3.00	3.10
yellow, slabs, 100-lb. ctns. ... lb.	2.95	3.05
Bentonite, dom., c.l. bags, f.o.b. works ... ton	43.50	-
Benzaldehyde, NF, dms. ... lb.	1.25	-
tech., dms., c.l., t.l. ... lb.	.73	.83
Prices are 4c. per lb. higher West of the Rockies.		
Benzene, indust. or nitration, barges, f.o.b.		
Baton Rouge, La. ... gal.	.75	-
Baytown, Tex. ... gal.	.75	-
Beaumont, Tex. ... gal.	.75	-
Catlettsburg, Ky. ... gal.	.75	-
Chicago district ... gal.	.75	-
Chocolate Bayou, Tex. ... gal.	.75	-
Clairton, Pa. ... gal.	.75	-
Corpus Christi, Tex. ... gal.	.75	-
Deer Park, Tex. ... gal.	.75	-
Houston district, spot ... gal.	.69	.72
Wood River, Ill. ... gal.	.75	-
Benzene hexachloride, 99% gamma isomer (see Lindane).		
Benzidine orange, powd., bgs., dlvd. lb.	4.90	8.70
liq., containers, dlvd. ... lb.	3.36	3.89
Benzidine yellow, AAA, bgs., dlvd. . lb.	5.80	6.05
AAOA, bgs., dlvd. ... lb.	7.35	7.40
AAOT, bgs., dlvd. ... lb.	5.95	6.20
Benzocaine, USP, dms., 1,000 kg. lots, f.o.b., works ... kg.	10.00	11.50
Benzodihydropyrone, dms. ... lb.	12.50	-
Benzoic acid, tech., bgs., c.l., t.l., f.o.b. works ... lb.	.55	.58
USP cryst., dms., ton lots same basis ... lb.	1.73	1.75
Benzoin gum, Sumatra, cs. ... lb.	1.80	-
Benzophenone, N.F., 1,000 lbs. or more, f.o.b. ... lb.	3.50	3.60
N.F., 1,000 kilos or more, f.o.b. ... kg.	7.45	-
tech, 1,000 kilos or more, fob works ... kgs.	4.35	-
2,2,-Benzothiazyl disulfide (see Mercaptobenzothiazyl disulfide).		
Benzotriazole, flake, dms., 1,000 lbs. or more, f.o.b. works ... lb.	6.10	-
powd., dms., 1,000 lbs. or more, same basis ... lb.	6.20	-
photo-grade, dms., 1,000 lbs. or more, same basis ... lb.	9.90	-
Benzotrichloride, refd., dms. t.l., frt. equald. ... lb.	.87	-
tanks, frt. equald ... lb.	.80	-
Benzoyl chloride dms., c.l., works . lb.	.57	.59
tanks, frt. equald. ... lb.	.74½	.75
Benzoyl peroxide, regular gran., 10,000-lb. lots or more, bgs., works, frt. equald. ... lb.	2.35	6.98
paste, 50% and 55% formulations, dms., pails, frt. equald. ... lb.	1.71	1.95
Benzyl acetate, dms. ... lb.	1.20	2.60
Benzyl alcohol, N.F. t.l. dms. frt. equald. ... lb.	1.26	1.85
tanks, same basis ...	1.37	1.43
photo grade, t.l., dms., same basis ... lb.	1.40	-
tanks, same basis ...	1.34	-
tech. grade, t.l., dms., same basis lb.	1.32	-
tanks, same basis ...	1.26	-
Benzyl benzoate, dms. ... lb.	1.66	2.25
Benzyl chloride, tech., non-ret. dms., c.l., t.l., frt. equald. ... lb.	.59	-
tanks, f.o.b. ... lb.	.54	-
Benzyl cinnamate, 25-lb. cns. ... lb.	8.50	9.95
n-Benzyl-N,N-dimethylamine, t.l., dms., f.o.b. works ... lb.	2.30	-
Benzyl formate, dms. ... lb.	10.50	-
6-tert-Butyl-m-cresol (see Mono-tert-butyl-m-cresol).		
Benzyl isoeugenol, dms. ... lb.	15.50	-
Benzyl propionate, dms. ... lb.	3.35	-
Benzyl salicylate ... lb.	2.90	3.25
Benzylidine acetone, cns., bots. ... lb.	2.95	3.25
Bergamot oil, nat., Italian, f.o.b. ... kilo	40.00	-
Betahydroxynaphthoic acid (see b-Oxynaphthoic acid).		
Biotin, cryst., 500 gms. or more ... gm.	5.50	-
Biphenyl (see Diphenyl).		
Bismuth nitrate, purif. cryst., 100-lb. dms., frt. equald. ... lb.	10.00	-
Bismuth oxychloride, 100-lb. dms., works ... lb.	17.20	-
Bismuth subcarbonate, USP, medium powd., 225-lb. dms., works. lb.	15.31	15.50
Bismuth subgallate, purif., 100-lb. dms., works ... lb.	10.50	-
Bismuth subnitrate NF, powd., 200-lb. dms., works ... lb.	14.45	-
Bismuth subsalicylate, purif. powd., 50-100 lb. dms., works ... lb.	17.00	-
Bismuth trioxide, reagent. powd., 100-lb. dms., works ... lb.	15.00	15.45
Bisphenol-A, epoxy grade, hopper cars, dlvd. ... lb.	.67	-
polycarbonate grade, same basis lb.	.71	-
Blanc fixe, syn., imp., bags ... lb.	.20	-
Bois de rose oil, Braz., dms. ... lb.	10.75	12.00
Peruvian, dms. ... lb.	10.75	-
BON toner (red 48) dms., frt. alld. ... lb.	7.25	8.05
(red 52) dms., same basis ... lb.	6.50	7.90
Bonemeal, steamed, dom., bgs., c.l., f.o.b. Midwest plants ... ton	180.00	190.00
imp., same basis, f.o.b. Philadelphia ... ton	No Prices	
Bone phosphate, defluorinated of lime (see Defluorinated phosphate).		
Bone phosphate, precip. (see Calcium phosphate tribasic).		
Borax, tech. anhyd. 99%, bgs., c.l., works ... ton	647.00	-
bulk, c.l., works ... ton	602.00	-

Borax, tech., gran., decahydrate, 99½% bgs., c.l., works .. ton	237.00	-
bulk, c.l., works ... ton	192.00	-
tech., pentahydrate, gran. 99½%, bgs., c.l., works ... ton	220.00	-
bulk, c.l., works ... ton	265.00	-
Borax, NF (See Sodium borate).		
Boric acid, tech., gran., 99.9%, bgs., c.l., works ... ton	614.00	-
bulk, c.l., works ... ton	569.00	-
Boron trichloride, CP, 1,600-lb. cyls., works ... lb.	3.60	-
Boron trifluoride, 60-lb. cyls., t.l., f.o.b. works ... lb.	4.03	-
bulk, same basis ... lb.	3.47	-
Boron trifluoride, etherate, 500-lb. dms., t.l., f.o.b., works ... lb.	2.35	-
phenolate, 500-lb. dms., t.l., same basis ... lb.	1.65	-
Bromine, dms., t.l., works ... lb.	.87	-
bulk, 45,000-lb. min., works ... lb.	.33	.34½
purif., t.l., dlvd. ... lb.	.75	-
Bromine dlvd., prices for dms. and bulk shipped W. of Rockies, 1c.-per-lb. higher. Bulk t.l. prices 1c. to 2½c.-per-lb. higher for 30,000-lb. min. and 4c. to 5½c.-per-lb. higher for 15,000-lb. min.		
Bromochloromethane, dms., c.l., f.o.b. Midland ... lb.	1.12	-
Butadiene, tanks, f.o.b. ... lb.	.26	.26½
1,4-Butanediol, tanks, f.o.b., frt. equald. ... lb.	.80	-
dms., same basis ... lb.	.88	-
Butene-1, tanks, f.o.b. works ... lb.	.26	.28
n-Butyl acetate, syn., tanks, frt. alld. lb.	.52½	-
n-Butyl acrylate, tanks, frt. alld. E. .. lb.	.69	-
n-Butyl alcohol, syn., ferment, tanks, frt. alld. ... lb.	.34	-
sec-Butyl alcohol, syn., tanks, dlvd. lb.	.365	-
tert-Butyl alcohol, syn., tanks, dlvd. E. ... lb.	.70	-
Butyl aldehyde (see Butyraldehyde)		
Butyl benzyl phthalate, tanks, frt. alld. ... lb.	.63	-
Butyl chloride, tanks, works ... lb.	.99	1.00
Butyl cyclohexyl phthalate, tanks, dlvd. ... lb.	1.01	-
n-Butyl ether, dms., c.l., t.l., works.. lb.	1.85	-
Butyl isodecyl phthalate, tanks, dlvd. ... lb.	.35	-
n-Butyl lactate, tanks, f.o.b. works ... lb.	1.58	-
n-Butyllithium, 15% soln., 1,000-lb. lots or more, cyls., 100% basis, dlvd. ... lb.	15.45	-
tanks, 3,000-lb. min., 100% basis, dlvd. ... lb.	14.75	-
Butyl methacrylate, tanks, frt equald. ... lb	.88	-
Butyl octyl phthalate, tanks, dlvd. E ... lb	.45	.47
Butyl oleate, dist., dms., c.l. ... lb.	.88	-
tanks ... lb.	.83	-
p-tert-Butylphenol, tanks works ... lb.	.70	-
Butyl phthalate (see Dibutyl phthalate).		
Butyl stearate cosmetic, dms., 77 dms. or more ... lb.	.91	.97
tanks ... lb.	.92	-
Butyl stearate tech., t.l. ... lb.	.60	.62
tanks ... lb.	.55	.56
Butylamine (see Mono-, Di- and Tributylamine).		
tert-Butylamine, dms., c.l., t.l., f.o.b. works ... lb.	1.31	-
tanks, same basis ... lb.	1.17	-
Butylated hydroxyanisole, food grade, dms., dlvd. ... lb.	8.80	8.85
Butylated hydroxytoluene, food, feed grades, c.l., t.l., bgs., dlvd. . lb.	1.24	1.30
tech., bgs., c.l., t.l., dlvd ... lb.	1.24	1.30
1,3-Butylene glycol, tanks, dlvd. ... lb.	.72	-
Butyraldehyde, tanks, dlvd ... lb.	.29½	.38
Butyric acid, tanks, frt. alld ... lb.	.44½	-
Butyric ether (see Ethyl butyrate).		
Butyrolactone, tanks, f.o.b. plant ... lb.	1.20	-
n-Butyronitrile, dms., c.l., dlvd. ... lb.	.93	-
tanks, dlvd. ... lb.	.54	-

C

Cadmium chloride, purif, cryst., 100-lb. dms., t.l., works ... lb.	3.73	-
Cadmium, CP, red, dark shade, bbls., 100-lb. lots, frt. alld., E. of Rockies ... lb.	11.33	16.35
light shade, bbls., same basis ... lb.	9.16	12.06
medium shade, bbls., same basis. lb.	10.69	15.20
medium-light shade, bbls., same basis ... lb.	10.26	14.60
Cadmium, CP yellow, all shades, bbls., 100-lb. lots, frt. alld., E. of Rockies ... lb.	6.10	7.07
Cadmium fluoborate, liq. conc., dms., t.l., works, frt. equald. ... lb.	2.27	-
medium-light shade, bbls., same basis ... lb.	3.22	-
Cadmium-mercury lithopone, maroon shade, bbls., frt. alld. E. of Rockies ... lb.	4.60	-
Cadmium metal ingots or sticks, ton lots, cs., dlvd. ... lb.	1.20	1.50
Cadmium nitrate, purif., flake 400-lb. dms., c.l., t.l., f.o.b. ship. pt. lb.	2.10	-
Cadmium-selenide-lithopone, orange, light shade, bbls., 400-lb. lots. frt. alld. E. of Rockies ... lb.	3.97	4.00
deep shade, bbls., same basis ... lb.	4.47	4.50
Cadmium-selenide lithopone, red, dark shade, bbls., same basis . lb.	6.77	6.80
light shade, bbls., same basis ... lb.	5.27	5.30
medium light shade, bbls., same basis ... lb.	5.72	5.75
medium shade, bbls., same basis. lb.	6.37	6.40
maroon shade, bbls., same basis. lb.	7.47	-
Cadmium-selenide lithopone, yellow, all shades, bbls., same basis . lb.	2.97	3.00
Cadmium sulfate, 80-lb. dms., any quantity, f.o.b. ship. pt. ... lb.	4.05	-
Caffeine, dom., USP, syn, cryst. anhyd., powd., 100-lb. dms., c.l., t.l., frt. alld. ... lb.	4.60	-
imp., cryst., anhyd., powd., dms., 10,000 lbs. or more ... lb.	4.70	4.85
Calamine, USP, dms. ... lb.	1.60	1.70
Calamus oil, dms. ... lb.	26.90	35.00
Calciferol (see Ergocalciferol).		
Calcium acetate, purif., powd., dms., t.l., works ... lb.	.87	-

Calcium carbide, std., generator size, bulk, c.l., f.o.b., works ... ton	402.00	-
Calcium carbonate, pulverized, 325-mesh, bgs., bulk, f.o.b. works ... ton	34.50	-
slurries, 54% solids, same basis ... ton	167.00	-
72% solids, same basis ... ton	98.00	-
quicklime, gran., ind., bulk, works ... ton	67.00	-
Calcium carbonate, coated, bgs., c.l., works ... lb.	.0742	.1350
Calcium carbonate, precip., bgs., cl., t.l. ... ton	370.00	430.00
Calcium carbonate precip. medium, bgs., c.l., works ... ton	95.00	140.00
precip. dense. bgs., c.l., surface treated, bgs., c.l., works .. ton	195.00	-
ultrafine, USP, bgs., c.l., works ... ton	160.00	170.00
Calcium chloride, conc., reg. grade. 77-80%, flake, bulk, c.l., works ... ton	153.00	-
100-lb. bgs., c.l., same basis ... ton	196.00	-
anhyd., 94-97%, flake or pellet, bulk, c.l., same basis ... ton	217.00	-
80-lb. bgs., c.l., same basis ... ton	279.00	-
brining grade, 80-lb. bags ... ton	285.00	-
Calcium chloride, liq., 100 percent basis, t.o., t.l., barge ... ton	99.75	-
45% same basis ... ton	118.00	-
Calcium chloride, USP, gran., 225-lb. dms., t.l., frt. equald. ... lb.	.90	-
Calcium citrate, purif., 200-lb. dms., 10,000 lbs. or more, f.o.b. works ... lb.	3.82	-
Calcium cyanamide, indust., anhyd. dms., works ... ton	400.00	450.00
Calcium gluconate, USP powd. t.l. . lb.	1.80	-
Calcium hydride, lump, dms., 25-1,000-lb. lots. works ... lb.	10.50	13.25
Calcium hypochlorite, 100-lb. dms., truckloads ship.t. E. of Rockies ... 100 lbs.	92.40	-
Calcium hypophosphite, dms., bulk, 500 kilos or more ... kilo	13.75	14.50
Calcium iodate, FCC dms., f.o.b. works ... lb	5.50	-
Calcium iodide, 50-kilo dms., f.o.b. works ... kilo	23.65	25.65
Calcium lactate, NF, powd., pentahydrate, dms., 24,000 lbs or more, f.o.b. works ... lb.	2.00	-
NF, gran., trihydrate, same basis lb	2.10	-
special gran., dried grade, same basis ... lb	2.80	-
Calcium naphthenate, liq., 4% Ca, c.l., f.o.b. plant, E. of Rockies lb	85	-
d-Calcium pantothenate, USP, 100-500-kilo lots ... kilo	10.50	11.50
dl-Calcium pantothenate, feed grade, f.o.b. frt. alld., 250 kilos or more ... kilo	8.00	8.50
dl-Calcium pantothenate, calcium chloride complex, feed grade, 160 grams per lb., f.o.b., frt. alld., 500 lbs or more ... lb.	2.75	-
Calcium phosphate, dibasic, feed grade, 18½% P. bulk, c.l., t.l., f.o.b. works ... ton	228.00	-
Calcium phosphate, dibasic, dihydrate, USP, bgs., c.l., t.l., works, frt. equald. ... 100 lbs.	62.50	-
anhyd., USP, same basis. . 100 lbs.	71.75	-
dentifrice grade, same basis. 100 lbs.	49.90	-
Calcium phosphate, monobasic, monohydrate, food grade, bgs., c.l., t.l., works, frt. equald. ... 100 lbs.	50.50	-
anhyd., food grade, same basis ... 100 lbs.	54.95	-
tribasic, NF precip., bgs., c.l., frt. equald. ... 100 lbs.	62.50	-
Calcium propionate, dms., 2,000 lbs. or more f.o.b. frt. alld. ... lb.	.50	.65
Calcium silicate, hydrated, bgs., c.l., works ... lb.	.07	-
Calcium silicate, paint grade (see Wollastonite).		
Calomel, NF, mild powd., 100-lb. dms., f.o.b. works ... lb.	8.50	-
Camphene chlorinated, 67-69% (see Toxaphene).		
Camphor, monobromated, dms., kgs. ... lb.	3.63	3.70
Camphor, syn., tech., 165-lb. dms., 5,000 lbs. or more ... lb.	1.80	-
USP, powd., 165-lb. dms., 5,000 lb. lots or more ... lb.	2.38	-
syn., refd., 1-oz. tablets, ctns. 1,000-lb. lots or more ... lb.	3.50	-
Camphor oil, yellow, 25-lb. dms ... lb.	2.60	-
white, dms. ... lb.	1.60	-
spec. grav., 1.070, dms. ... lb.	2.00	2.25
Cananga oil, Indonesian, dms. ... kilo	17.00	-
Candelilla wax, crude, bgs. ... lb.	1.90	-
refd. pure, bgs. ... lb.	2.10	-
Capric acid, coml. pure, dms. ... lb.	.80	.85
tanks ... lb.	.60	.65
Capric aldehyde (aldehyde C-10) dms., cns. ... lb.	3.95	6.35
Caprolactam monomer, flake, bgs., t.l., f.o.b. shipping point ... lb.	.87	-
molten, tanks, same basis ... lb.	.85	-
Capryl alcohol sec. 92-99% tanks, f.o.b. works ... lb.	.35	-
Caprylic acid, coml. pure tanks ... lb.	.73½	-
Capsicum (see Pepper, red).		
Capsicum oil (see Capsicum oleoresin).		
Capsicum oleoresin, NF, from dom., pepper, dms. ... lb.	11.00	-
NF, from African pepper, dms. 500,000 pungency ... lb.	9.00	-
1,000,000 pungency ... lb.	17.00	18.00
Caraway oil, Poland, dms. ... lb.	22.00	25.00
Caraway seed, Dutch, bgs. ... lb.	.71	-
Egyptian, bgs. ... lb.	.58	-
Carbon black, furnace, fast extruding, (FEF), bulk, c.l., works ... lb.	.3175	-
bgs., c.l., works ... lb.	.3375	-
general purpose (GPF), bulk, c.l., works ... lb.	.3125	-
bgs., c.l. works ... lb.	.3325	-
high abrasion (HAF), high structure, bulk, c.l. works ... lb.	.3300	-
bgs., c.l., works ... lb.	.35	-

CHEMICAL PRICES

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Carbon Black, low structure, bulk, c.l. works ... lb.	.3225	-
bags, c.l. works ... lb.	.3425	-
intermediate-super-abrasion (ISAF) ... lb.	.3450	-
bgs., c.l. works ... lb.	.3650	-
super-abrasion (SAF), bulk, c.l., works ... lb.	.3850	-
bgs., c.l., works ... lb.	.4050	-
semi-reinforcing (SRF), bulk, c.l., works ... lb.	.3125	-
bgs., c.l., works ... lb.	.3325	-
Carbon black, thermal, medium, bgs. c.l., works ... lb.	.30	.30½
bulk, c.l. works ... lb.	.32	.34½
Carbon black oil, barge, f.o.b. Gulf refineries ... bbls.	14.50	-
f.o.b. W. coast refineries ... bbls.	14.50	-
Carbon disulfide, t.c., f.o.b. works ton	420.00	-
Carbon tetrachloride, CP, consumers, dms., c.l., frt. alld. ... lb.	.36	-
tech., dms., c.l., t.l., frt. alld. ... lb.	.31	-
tank transport (min. 4,000 gals.) frt. alld. ... lb.	.24	-
Carboxymethyl cellulose (see CMC).		
Cardamom oil, NF, bots. ... lb.	75.00	100.00
Cardamoms, decort, Guatemalan. . lb.	4.25	-
green, Guatemalan, bgs. ... lb.	6.25	9.75
Carmine, No. 40, NF, bulk, 100-lb. lots or more, dlvd. ... lb.	135.00	140.00
Carnauba wax, Parnahyba, No. 1, yellow, bgs., ton lots ... lb.	1.95	2.05
Ceara, No. 1, yellow, bgs., ton lots ... lb.	1.75	1.90
North Country, No. 2, refined, bgs., ton lots ... lb.	1.55	1.65
Carnauba wax, North Country No. 3, centrifuged, bgs., ton lots lb	1.10	-
North Country, No 3, refined, bgs., ton lots ... lb	1.30	1.45
Powdered carnauba wax, 20 to 100 mesh, 20c. per lb. higher		
b-Carotene, in vegetable oil, semi-solid suspension, 400,000 A units per gram, 33 lbs. or more lb.	32.75	
b-Carotene, liq. in vegetable oil, 500,000 A units per gram, 33 lbs. or more ... lb.	40.75	-
b Carotene, dry, beads, 10%, 167,000 A units per gram 50-lb cns lb.	26.85	-
d-Carvone, 25-lb. dms., syn. ... lb.	48.00	-
l-Carvone ... lb.	7.00	7.25
Cascara sagrada bark, bulk ... lb.	1.00	-
Casein, imp., acid-precip., grd., 30-mesh, Australian, edible, same basis. c.i.f. ... lb.	1.45	-
Australian, indust., same basis. c.i.f. ... lb.	1.365	-
Cassella acid, 303 mol. wt., dms., frt. alld., 100% basis ... lb.	3.70	-
Cassia, Korintji "A" bgs. ... lb.	.90	.94
"B" bgs. ... lb.	.72	.78
Castor oil, raw, No. 1, Braz. tanks . lb.	.32½	.33
USP 5-9 dms. ... lb.	.74	-
refd. deod., 5-9 dms. ... lb.	.78	-
blown, 5-9 dms. ... lb.	.75	-
dehydrated, bodied, tanks ... lb.	.74	-
dehydrated, unbodied, tanks ... lb.	.65	-
Castor oil, acids dehydrated, dms. . lb.	1.10	-
ricinoleic acid ... lb.	.79½	.83
Castor pomace, bgs., container load, f.o.b., Miami, Fla. ... ton	154.00	-
Castoreum, nat., cns. ... lb.	18.00	35.00
syn., cns. ... lb.	11.00	-
Catechol, CP, 45-kilo dms., 50-239 dms., f.o.b. ... kilo	7.93	-
tech., bgs., t.l., same basis ... kilo	3.71	-
Caustic potash (see Potash, caustic).		
Caustic soda (see Soda, caustic).		
Cedarleaf oil, dms. ... lb.	17.50	-
Cedarwood oil, Texas, dms., cns. . lb.	3.50	4.00
Virginia ... lb.	3.70	4.20
Cedrol, prime dms. ... lb.	6.25	-
Cedryl acetate, dist., dms. ... lb.	4.25	5.30
Celery seed, Indian, bgs. ... lb.	.52	.64
Celery seed oil ... lb.	50.00	83.00
Cellulose acetate, powd., bgs., t.l., dlvd. E. ... lb.	1.30	-
Cellulose acetate butyrate, powd., 17% butryl content, bgs., t.l., dlvd. E. ... lb.	1.75	-
38% butryl content, bgs., dlvd. E. . lb.	1.59	-
50% butryl content, bgs., dlvd. E. . lb.	1.81	-
55% butryl content, bgs., dlvd. E. . lb.	1.83	-
Cellulose gum, pure, high vis., bgs., 24,000-lb. lots or more works, f.o.b. Hopewell, Va. ... lb.	1.60	1.70
std., low or medium vis., bgs., c.l., t.l., f.o.b. Hopewell, Va. ... lb.	1.80	1.90
Cerium concentrate CeO_2, 50 lbs. ... lb.	1.35	-
Cerium hydroxide 90% CeO_2, dms., works ... lb.	5.40	-
77% CeO_2, dms., works ... lb.	4.20	1.80
Cerium oxide, optical grade, bgs., 50-lb. lots or more, dlvd. ... lb.	1.85	1.90
Cetyl alcohol, NF, cns., c.l., t.l., dlvd. E. lb.	.58½	1.27
Chalk (see Calcium carbonate).		
Chamomile flowers, Hungarian, cs. . lb.	4.25	4.60
Roman, cs. ... lb.	4.94	-
Egyptian, whole ... lb.	2.70	3.00
Chamomile oil, blue, Egyptian ... lb.	545.00	-
blue, Hungarian ... lb.	370.90	-
Chenopodium oil, NF, cns. ... lb.	16.00	-
Chicago acid, dry, bbls., frt. alld. ... lb.	13.50	-
Chilies (see Pepper, red).		
Chlordane, tech., 100% basis dms., c.l., frt. alld. ... lb.	3.60	-
Chlorendic anhydride, tech., dms., t.l., works ... lb.	1.30	-
Chlorinated paraffin, 40% chlorine, bulk, dlvd., Zone 1 ... lb.	.45	.46½
50% chlorine, same basis ... lb.	.46	.47½
60% chlorine, same basis ... lb.	.46½	.48½
70% chlorine, resinous, 50-lb. bgs., c.l., dlvd., Zone 1 ... lb.	.69	-

CHEMICAL PRICES

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Chlorinated paraffin, Zone 2 prices are 1c. per lb. higher and Zone 3 prices are 2c per lb. higher and t.l. drum prices are 5c per lb. higher

Chlorinated rubber, 5, 10, 20 cps., bgs, t.l., divd. ....lb.	1.86	-
40 cps, bgs., t.l., divd. ....lb.	1.92	-
125 cps., bgs., t.l., divd. ....lb.	2.60	-
300 cps., bgs., t.l., divd. ....lb.	2.75	-
Chlorine, tanks single units works, f.o.b., frt. equald ....ton	195.00	200.00
Chloroacetic acid, mono, high purity, flake, 99% bulk f.o.b. works ....lb.	.58	-
2-Chloro-4-aminotoluene, tech., liq., dms., c.l., t.l., f.o.b. works ....lb.	1.88	-
o-Chloroaniline, liquid, dms., c.l., f.o.b. works ....lb.	1.63	-
tanks, same basis ....lb.	1.55	-
p-Chloroaniline, solid, c.l., t.l., f.o.b. ....lb.	1.70	-
flake, dms., c.l., same basis ....lb.	2.00	-
o-Chlorobenzaldehyde, dms., t.l., works ....lb.	2.45	-
p-Chlorobenzaldehyde, dms., 2,000 lbs. or more, works ....lb.	3.84	3.85
o-Chlorobenzoic acid, dms. t.l.l. wks. ....lb.	3.90	-
p-Chlorobenzoic acid, dms., 500-lb. lots or more, works ....lb.	1.69	2.25
Chloroform, tech. tanks, distr. divd. ....lb.	.34½	-
tech., consumers, tanks, divd. ....lb.	.34½	-
NF tanks, min., consumer, 4,000 gals. divd. ....lb.	.35½	-
2-Chloro-4-nitroaniline, paste, commodity basis, dms., t.l., f.o.b. ....lb.	3.06	-
powd., same basis ....lb.	3.15	-
4-Chloro-2-nitroaniline, paste, 172.6 mol. wt., commodity basis, dms., t.l., f.o.b. ....lb.	2.25	-
powd., same basis ....lb.	2.70	-
o-Chlorophenol, dms., c.l., frt. equald ....lb.	2.00	2.40
p-Chlorophenol, dms., c.l., frt. equald ....lb.	1.25	1.70
Chloropicrin, coml., 1,600-lb. cyls., t.l., f.o.b. works ....lb.	1.25	-
Chlorosulfonic acid, tanks, frt. equald ....lb.	.10½	-
p-Chlorotoluene, tech., tanks, works ....lb.	1.00	-
Cholecalciferol, dry, 40,000,000 units per gram, kilo lots ....gm.	24.00	-
Choline bitartrate, cryst., 98% min., 50 kilo dms., f.o.b. Springfield, Mo. ....kilo.	6.60	-
Choline chloride, feed grade, 70% aqueous, t.c., t.t., divd. E of Rockies ....lb.	.28	-
60% dry supplement ....lb.	.39	-
Choline chloride, 60% dry supplement, bulk hopper cars ....lb.	.39	-
bgs., 50,000 lbs. min. ....lb.	.40	-
Choline chloride, pharmaceutical, 50 kilo, lots, f.o.b. Springfield, Mo. ....kilo.	5.00	-
Choline dihydrogen citrate, 98% min., 50 kilo lots, f.o.b. Springfield, Mo. ....kilo.	6.00	-
Chrome green, CP extra light, bgs., divd. E. of Rockies ....lb.	1.68	-
light, bgs., same basis ....lb.	1.70	-
medium, bgs., same basis ....lb.	1.72	-
extra deep, CP., same basis ....lb.	1.74	-
Chrome orange, CP, bgs., divd. E. of Rockies ....lb.	.83	.89
Chrome yellow CP bbls., divd. E. of Rockies ....lb.	1.09	1.18
Chromic acid, 99¾%, flake dms., c.l., frt. equald ....lb.	1.18	-
grd., same basis ....lb.	1.25	-
Chromium acetate, soln., 7½%, dms., 500-2,000-lb. lots, works. ....lb.	.10	-
Chromium fluoride, dms., t.l., works ....lb.	.81	-
Chromium nitrate, dms., t.l., f.o.b. ....lb.	1.45	-
10% metal soln., 500-lb. dms. same basis ....lb.	.74	.88
Chromium oxide, hydrated, 50-lb. bgs., c.l. ....lb.	5.50	-
pure, bgs., c.l. ....lb.	1.90	2.00
Cinnamic aldehyde, cns., dms. ....lb.	1.85	2.45
Cinnamic alcohol, 25-lb. cns. ....lb.	4.50	-
Cinnamon, H2 ....lb.	1.05	1.10
Cinnamon bark oil, bots ....lb.	88.00	95.00
Cinnamon leaf oil, dms ....lb.	2.80	-
Citral, nat., dms ....lb.	5.50	6.65
syn., 55-gal. dms. f.o.b. ....lb.	3.18	-
Citric acid, USP, hydrous, gran., 250-lb. dms., t.l. ....lb.	1.19	-
Citric acid, USP, anhyd., gran. 250-lb. dms., t.l., del. ....lb.	.88	-
Citric acid anhyde, powder bc. higher		
Citronella oil, Ceylon, dms. ....lb.	2.12	2.24
Java, dms. ....kilo	4.50	-
China, dms. ....kilo	4.30	-
Citronellal, 25-lb cans ....lb.	3.85	7.40
Citronellol drums, f.o.b. ....lb.	3.68	-
Citronellyl acetate, dms. ....lb.	5.50	6.60
Citronellyl formate, 25-lb. cns. ....lb.	6.85	-
Civet, artif., bots ....lb.	20.00	-
nat. ....kilo	500.00	-
Clay ball, dom. air floated, bgs., c.l., Tenn. ....ton	49.00	-
dom., crushed, moisture-repellent, bulk, c.l., Tenn. ....ton	24.00	-
Clay China (see Kaolin).		
Cleaners, naphtha, 140° flash tanks., New Jersey or New York, divd. ....gal.	1.40	-
Clove leaf oil Indonesian, reg. dms. ....kilo	2.85	3.00
Madagascar, reg. ....lb.	4.20	-
Clove bud oil ....kilo	25.00	-
Cloves, Brazil ....lb.	2.35	2.40
Zanzibar ....lb.	4.20	-
Madagascar ....lb.	2.35	2.40
CMC, technical, 96% minimum, low or medium vis., bgs., 24,000 lbs., f.o.b. Hopewell, Va., 100% basis ....lb.	1.25	-
detergent makers, f.o.b. manufacturing point ....lb.	.64	-
CMC, purif., high vis., (see Cellulose gum).		
Coaltar pitch, indust., liq., works ....ton.	250.00	255.00
roofing, 140–155, Federal specification RP-381 Type 1, bulk works ....ton	350.00	-
Cobalt acetate, dms., t.l., frt. alld ....lb.	3.61	4.25
Cobalt carbonate, powd., dms., frt. alld ....lb.	8.61	8.16
Cobalt chloride, dms., 5,000 lbs. or more, ft. equald ....lb.	4.15	-
Cobalt hydrate, dms., t.l., frt. alld ....lb.	8.20	10.55
Cobalt metal, 99.5-99.9%, 250-kilo. dms., f.o.b. NY, Chicago. ....lb.	11.70	-
Cobalt naphthenate, liq., 6% Co., dms., divd. ....lb.	2.06	-
Cobalt nitrate, dms., t.l., frt. alld ....lb.	2.74	3.45
Cobalt oxide, imp., black, 72-73% Co. ....lb.	9.61	-
Cobalt oxide, imp., 70-71% Co. ....lb.	9.78	-
Cobalt phosphate powd. 32.1% Co., dms., divd. ....lb.	1.35	-
Cobalt resinate fused, 3% Co., dms. ....lb.	.38½	-
Cobalt sulfate, cryst., bgs., 10,000 lbs. or more, frt. alld. E. ....lb.	2.81	3.54
monohydrate, dms., frt. alld ....lb.	4.56	6.02
Cobalt tallate, 6% Co., dms., divd. ....lb.	2.16	-
Cochlane bark, bls. ....lb.	.40	.45
Cocoa butter, spot ....lb.	2.05	2.10
Coconut oil (See Oils, Fats & Waxes market report.).		
Coconut oil acids, distilled, t.c., f.o.b. ....lb.	.52	.58
double distilled, same basis ....lb.	.54	.63
Cod oil, f.o.b., Gloucester, Mass., bulk ....gal.	6.60	-
Codeine alkaloid, NF, 25-kilo lots, ...kilo.	900.00	-
Codeine phosphate, USP, cns., 25-kilo lots ....kilo	640.00	-
Codeine sulfate, NF cns., 25-kilo lots ....kilo	775.00	-
Codliver oil, NF, dms ....gal.	6.50	7.25
Copaiba balsam, dms ....lb.	1.50	-
Copaiba oil, cns., dms ....lb.	3.75	-
Copper acetate, monohydrate, cryst., tech., dms., t.l., works ....lb.	.71	.74
Copper bromide, (cupric) 200-lb. dms., 100,000-lbs. -per-year contracts, works ....lb.	1.34	-
Copper carbonate, 55% Cu. dark, dense, 50-lb. bgs., c.l., t.l., works ....100 lbs.	108.30	-
light, fluffy, 50 lb. bags, c.l., t.l., works ....100 lbs.	109.30	-
Copper chloride (cupric), anhyd., c.l., works ....lb.	.90	-
Copper cyanide, tech. dms., 24,000-lb. lots or more ....lb.	2.30	2.62
Copper fluoborate, (cupric), liq. conc., dms., t.l., works, frt. equald ....lb.	.82	-
Copper gluconate, FCC grade, 25-lb. dm., frt. equald ....lb.	6.50	-
Copper metal electrolytic wire bars, divd., domestic, basis ....lb.	.62½	-
Copper naphthenate, liq., 8% Cu., dms., frt. alld ....lb.	1.19	-
Copper nitrate (cupric), purif., flake, dms., t.l., works ....lb.	.43¼	-
Copper oleate, solid, 6% Cu. dms., works frt alld ....lb.	.97	-
Copper oxide, black (cupric), dms., 80,000-lb. lots, works ....lb.	1.21	-
red (cuprous), dms., 97%, USN Type 1, (AA), 80,000-lb. lots, works ....lb.	1.19	1.20
red, 90%, Type 2, same basis ....lb.	1.15	-
Copper-8-quinolinolate, 10%, liq. emulsion, t.l., divd. ....lb.	2.52	-
Copper sulfate, cryst., pentahydrate, 99% bgs., c.l., f.o.b. works ....100 lbs.	46.45	-
CP, pentahydrate, cryst., dms., l.c.l., works ....100 lbs.	60.00	-
monohydrated, 35% Cu, dms., c.l., works ....100 lbs.	75.10	-
basic, bgs., c.l., works ....100 lbs.	88.30	-
Coriander oil, USP, dms. ....lb.	22.00	26.00
Coriander seed Moroccan ....lb.	.35	.37
Rumanian ....lb.	.35	-
Corn oil (See Oils, Fats & Waxes market report).		
Corn oil, crude, foots (soapstock), 95% acid; New York ....lb.	.13½	.14
Corn oil acid, dms ....lb.	.50	-
tanks ....lb.	.32	.40
Corn syrup 43 Be., tanks, f.o.b. works ....100 lbs.	11.22	11.43
Cortisone acetate, USP, dms., 5 kilos or more ....gram.	.80	-
Cottonseed meal (See Oils, Fats & Waxes market report.)		
Cottonseed oil (See Oils, Fats & Waxes market report.)		
Cottonseed oil, acidulated (soap stock), acid, 95%, tanks, N.Y. ....lb.	.13	-
Cottonseed oil acids, dist., dms ....lb.	.63	-
tanks ....lb.	.55	-
Coumarin, NF X, cryst., over 600-lb. lots ....lb.	6.00	6.20
Cream of tartar (see Potassium bitartrate).		
Creosote, coaltar, grade 1, tanks, f.o.b. works ....gal.	1.15	1.18
soln., 60/20, tanks, same basis. ....gal.	1.134	1.17
p-Cresidine, fused, dms., works ....lb.	4.31	-
m-Cresol, 95-98%, dms., t.l., f.o.b. ....lb.	1.71	-
tanks, same basis ....lb.	1.65	-
m,p-Cresol, 99%, dms., t.l., f.o.b. ....lb.	.94	-
bulk, same basis ....lb.	.82	-
o-Cresol, 99% pure, dms., t.l., f.o.b. ....lb.	.87	-
bulk, same basis ....lb.	.75	-
98% pure, dms., t.l., f.o.b. ....lb.	.87	-
bulk, same basis ....lb.	.75	-
p-Cresol, 98%, dms., t.l., f.o.b. ....lb.	1.22	-
bulk, same basis ....lb.	1.16	-
Cresylic acid, coaltar, dom., metapara content above 25%, resin and tricresyl phosphate grades, tanks, frt. alld ....lb.	.58	-
Cresylic acid, dom., metapara content 25% or less, tanks, frt. alld. ....lb.	.58	-
Crotonic acid, 200-lb. dms., t.l., f.o.b. divd ....lb.	1.60	-
Cryolite syn., bulk, c.l., works ....ton	510.00	550.00
Cube root, powd., 5% rotenone, basis, 50-lb. bgs., t.l., works ....lb	.60	-
Cumene, bulk, contract, f.o.b. ....lb	.14½	-
Cumin seed, Indian, bgs. ....lb	82	85
Cyanuric acid, dms., cl, ll frt. equald ....lb	1.16	1.37
Cyclamen aldehyde, 50% min. aldehyde content, dms ....lb	4.85	-
96.5%., dms ....lb	7.35	9.20
90-92%, dms ....lb	7.85	-
Cyclohexane, bulk, barges, wks ....gal.	.94125	.95125
Cyclohexanol tech., tanks, f.o.b. ....lb	52	56½
Cyclohexanone tech., tanks, f.o.b. works ....lb	.55½	.58½
tanks, divd. ....lb	565	-
Cyclohexylamine, tech., tanks, works ....lb	85	-

D

2,4-D acid, tech., 50-lb. bgs., c.l., t.l., works, frt. equald. ....lb.	1.10	1.25
2,4-D butyl ester, tech., 55-gal. dms., c.l., t.l., works, frt. equald. ....lb.	1.30	-
tanks, same basis ....lb.	1.25	-
2,4-D dimethylamine salt, t.c., t.t. works, frt. alld ....gal.	8.05	-
Decyl alcohol, mixed isomers, tanks, divd ....lb.	.32	-
perfume grade, dms ....lb.	.75	-
Defluorinated phosphate (tricalcium), feed grade, 18% P, c.l., bulk, f.o.b. works ....ton	195.00	228.00
Denatured alcohol, ethyl, CD18, CD19, tanks, divd. E. ....gal.	1.87	-
NOTE: Tankcar sales require written authorization by Alcohol and Tobacco Tax Division.		
Denatured alcohol, ethyl,		
SD2B, tanks, divd. E. ....gal.	1.81	-
SD3A, tanks, divd. E. ....gal.	1.76½	-
SD23A, tanks, divd. E. ....gal.	1.86	-
SD23H, tanks, divd. E. ....gal.	1.89	-
SD29, tanks, divd. E. ....gal.	1.83	-
SD30, tanks, divd. E. ....gal.	1.72½	-
SD35A, tanks, divd. E. ....gal.	1.88½	-
Denatured alcohol, ethyl, brucine formula SD40, tanks, divd. E. ....gal.	1.83	-
ethyl, optional formula, SD40, tanks, divd. E. ....gal.	1.82½	-
For anhyd. alcohol on above formulae, prices are 12c. per gal higher.		
West Coast divd. prices are the same as Eastern prices, except in Idaho, Oregon and Washington where a 5c. differential on tankcars is maintained.		
Desoxyephedrine hydrochloride (See Methamphetamine hydrochloride)		
Detergent alkylate, straight chain dodecylbenzene, tanks, barges, f.o.b. ....lb.	.45	-
Dextrin, corn, canary dark, paper bgs., c.l., works ....100 lbs.	28.04	-
white, paper bgs., c.l., works ....100 lbs.	27.43	-
Dextrose, anhyd., coml., bgs., c.l., divd. New York ....100 lbs.	41.10	-
USP special, 100-lb. bgs., c.l., divd. New York ....100 lbs.	46.50	-
Dextrose, hydrated coml, bgs., c.l., divd. New York ....100 lbs.	24.25	-
Western zone ....100 lbs.	25.60	-
Diacetone alcohol, acetone free, tanks, divd. ....lb.	.52	-
Diacetyl, flavor grade, dms. ....lb.	9.25	15.00
Diammonium phosphate, fert. grade, min. 18% N, 46% P. bulk, c.l., f.o.b. Fla. works ....ton	140.00	145.00
Diammonium phosphate, feed grade, 18% N, 20% P, bulk. c.l., f.o.b. Fla. works ....ton	240.00	-
bgs., same basis ....ton	250.00	-
Diammonium phosphate, tech., bgs., c.l., t.l., works, frt. equald ....100 lbs.	52.50	-
food grade, bgs., c.l., t.l., same basis ....100 lbs.	57.75	-
2,4-Di-tert-amylphenol, min. 95.5%, dms., c.l., t.l., works ....lb.	1.04	-
tanks, works ....lb.	.97	-
Diarylide yellow, OT, (yellow 14), dms., frt. alld ....lb.	6.20	-
o-Dianisidine dihydrochloride, 100%, MW 244, dms., t.l., divd. ....lb.	4.25	-
2,6-Di-tert-Butyl-p-Cresol (see Butylated hydroxytoluene)		
Dibutyl fumarate, tanks, f.o.b. works ....lb.	.70	.75
Dibutyl maleate tanks, f.o.b. works. ....lb.	.61	-
Dibutyl phthalate, tanks, works ....lb.	.56	-
Dibutyl sebacate tanks, works ....lb.	1.56	1.85
Dibutylamine, dms., c.l., divd ....lb.	1.12	-
tanks, same basis ....lb.	1.06	-
Dicapryl phthalate tanks, frt. alld. E. ....lb.	.35	.37
2-5-Dichloroaniline, flake, dms., works ....lb.	2.00	-
fused, dms., works ....lb.	1.80	-
3,4-Dichloroaniline, tech. 88%, solid, dms., c.l., t.l., f.o.b. works ....lb.	1.48	1.57
o-Dichlorobenzene, tech., 80%, dms., c.l., t.l., divd ....lb.	.52	-
tanks, same basis ....lb.	.45	-
98% refd., dms., c.l., same basis ....lb.	.54	-
tanks, same basis ....lb.	.47	-
p-Dichlorobenzene, graded, 300-lb. dms., t.l., f.o.b., frt. equald. ....lb.	.51	.52
tanks, liq., same basis ....lb.	.43	.47
2,6-Dichloro-4-nitroaniline, dms., 10,000 lbs. or more, works ....lb.	3.30	-
Dichlorophenoxyacetic acid (see 2,4-D).		
Dicyclohexylamine, dms., c.l., t.l., f.o.b. ....lb.	1.35	-
tanks, same basis ....lb.	1.25	-
Dicyclohexyl phthalate, bgs., c.l., t.l., divd ....lb.	1.25	-
Dicyclopentadiene, high-purity, 97-98%, tanks, works ....lb.	.35	-
Diethanolamine, tanks, frt. alld ....lb.	.44	.47
Diethanolamine lauryl sulfate, tanks, frt. alld ....lb.	.41	-
DDVP (see Dimethyl dichlorovinyl phosphate).		
Diethyl barbituric acid (see Barbital)		
Diethyl carbonate, tankwagons, f.o.b. works ....lb.	1.40	-
Diethyl ethanolamine, CP dms., c.l., divd ....lb	1.18	-
tanks, divd ....lb	1.10	-
Diethyl ethanolamine tech., 8c per lb. lower.		
Diethyl oxalate, dms., cl, f.o.b. works ....lb.	1.80	-
Diethyl phthalate, tanks, f.o.b. ....lb.	.62	.65
odorless cosmetic grades, t.l., works ....lb.	.97½	-
Diethyl sulfate, tanks, frt alld E. ....lb.	.59	
Diethyl thiourea, dms., c.l., t.l., works ....lb.	2.48	
Di 2-ethylhexyl adipate (see Dioctyl adipate).		
Diethyl toluamide 95.97% min meta isomer dms., t.l., f.o.b. works ....lb.	2.75	-
N,N-Diethyl m-toluidine, tech., liq., dms., c.l., f.o.b. ....lb.	3.18	-
tanks, same basis ....lb.	3.10	-
Diethylamine, dms., c.l., divd. ....lb.	1.15	-
tanks, same basis ....lb.	1.02	-
N,N-Diethylaniline, dms., c.l., t.l., f.o.b. works ....lb.	1.83	-
tanks same basis ....lb.	1.75	-
Diethylbenzene, tanks, f.o.b. works ....lb.	.98	-
Di-2-ethylhexyl azelate (see Dioctyl azelate).		
Di-2-ethylhexyl phthalate (see Dioctyl phthalate).		
Diethylene glycol, tanks, divd. E. ....lb.	.29½	.31½
Diethylene glycol monobutyl ether, dms., c.l., frt. alld E. ....lb.	.65	-
tanks, frt alld E ....lb	.57	-
Diethylene glycol monoethyl ether, dms., c.l., frt alld E. ....lb.	.64	-
tanks, frt alld. E ....lb	.56	-
Diethylene glycol monomethyl ether, dms., c.l., frt alld. ....lb.	.62	-
tanks, frt. alld. ....lb.	.54	-
Diethylene glycol monobutyl ether acetate, dms., c.l., divd. E ....lb.	.80	-
tanks, divd. E. ....lb.	.72	-
Diethylene glycol monoethyl ether acetate, dms., c.l., frt alld E ....lb.	.80	-
tanks, frt alld ....lb.	.72	-
Diethylenetriamine, tanks, f.o.b. works ....lb.	1.60	1.91
Diethylenetriamine pentaacetic acid, pentasodium salt solution, tank-cars/tanktrucks, frt-equalized ....lb	.45	-
Digitoxin, USP, imp. bots ....gram	2.60	3.00
Diglycol laurate, dms., ton lots ....lb	.32½	-
Diglycol stearate, dms., t.l. ....lb	.62	.73
Dihydrazine sulfate, dms., works ....lb	1.10	1.25
Dihydrostreptomycin sulfate, bulk ....kilo	48.00	-
Dihydroxyacetone. 50-kilo lots, works. ....kilo.	40.00	-
Di-isobutyl ketone, tanks, divd ....lb.	.60	-
Di-isobutyl phthalate tanks, divd E ....lb.	.55	.57
Di-isobutylene, tanks, f.o.b. Houston ....lb	.37	-
Di-isodecyl phthalate, tanks, divd ....lb	.39½	-
Di-isononyl phthalate, tanks, divd ....lb	.41	-
Di-iso octyl azelate, tanks, divd E ....lb	.90	-
Di-iso-octyl phthalate, tanks, divd ....lb	.41	-
Di-isopropanolamine, dms., c.l., frt alld. ....lb	.66½	-
tanks, same basis ....lb.	.58½	-
Di-isopropylamine, dms., c.l. divd ....lb.	1.17	-
tanks, same basis ....lb	1.07	-
Dilauryl 3,3-thiodipropionate, dms., t.l., frt alld. ....lb	1.89	-
Dill oil, USP, dms ....lb.	7.00	8.25
Dimethyl anthranilate, dms ....lb.	15.80	-
Dimethyl benzyl carbinyl acetate, 25-lb dms ....lb.	6.95	-
Dimethyl carbonate, dms., t.l., f.o.b. works ....lb.	.90	-
Dimethyl dichlorovinyl phosphate, 55-gal. dms., f.o.b ....lb	1.80	1.90
Dimethyl ethanolamine, anhyd., dms., c.l., divd. E. ....lb	1.16	1.18
tanks, divd E ....lb.	1.07	1.10
Dimethyl ether, aerosol grade, tanks, divd ....lb.	.38	-
Dimethyl phthalate, tanks, f.o.b works ....lb.	.65	-
Dimethyl sebacate, tanks, f.o.b works ....lb.	2.28	2.58
Dimethyl sulfate, ref. dms., c.l., f.o.b. works ....lb.	.67	-
tanks ....lb.	.46	-
Dimethyl sulfide, tanks, works ....lb.	1.09	1.30
Dimethyl sulfoxide, tanks, works ....lb.	.78	-
Dimethylacetamide, bulk f.o.b. ....lb.	.87½	-
Dimethylamine, 25% soln., tanks, frt. equald., 100% basis ....lb.	.63½	-
40% soln., tanks, frt. equald., 100% basis ....lb.	.65½	-
anhyd., tanks, frt. equald ....lb.	.64½	-
N,N-Dimethylaniline, t.l., f.o.b ....lb.	1.03	-
t.l. dms. ....lb.	1.11	-
N,N-Dimethylformamide, dms., c.l., t.l., f.o.b., works ....lb.	.67	-
tanks, same basis ....lb.	.49	-
2,4-Dinitroaniline, tons-lots, f.o.b. ....lb.	1.22	-
Dinitroaniline, orange toner, CP, bgs., divd. E. of Rockies ....lb.	5.20	-
2,4-Dinitrochlorobenzene, crystalizing at 47°, t.l., f.o.b. Charlotte, N.C. ....lb.	.96	-
2,4-Dinitrophenol, 250-lb. dms., f.o.b. Charlotte, N.C. ....lb.	1.95	-
Dinitrotoluene, mix., tech. f.o.b. works ....lb.	.30	[illegible]
2,4-Dinitrotoluene, dms., c.l., t.l., works ....lb.	1.26	-
tanks, works ....lb.	1.20	[illegible]
Dioctyl adipate, tanks, frt. alld. E. ....lb.	.67	-
Dioctyl azelate, tanks, divd. E. ....lb.	.90	[illegible]
Dioctyl phthalate, tanks, divd. ....lb.	.40	-
Dioctyl sebacate, 99%, tanks, f.o.b. works ....lb.	1.29	[illegible]
1,4-Dioxane, tanks, frt. alld. E. ....lb.	1.13	-
t.l., same basis ....lb.	1.21	-
Dipentaerythritol, bgs., c.l., t.l., divd. E. ....lb.	1.42	-
Dipentene steam-dist., tanks, f.o.b. Fla. works ....lb.	.29	[illegible]
sulfate turpentine derived, tanks ....lb.	.25	[illegible]
Dip oil (see Tar acid oil).		
Diphenhydramine hydrochloride, USP, dom., 1,000-kilo lots, dms., divd. ....kilo.	20.00	[illegible]
Diphenyl, 99.9%, bgs., c.l., t.l., works ....lb.	.74	-
tanks, works ....lb.	.66	-

Diphenyl oxide, tech. grade, tanks ....lb.	1.11	1.20
Diphenylamine, refd., flake, bgs., t.l., works, frt. equald. ....lb.	1.25	-
molten, tanks, works. ....lb.	1.00	-
octylated, flake, bgs., t.l., f.o.b. works ....lb.	7.68	-
Diphenylguanidine, bgs., t.l., frt. alld. ....lb.	2.52	-
Diphenylhydantoin-sodium USP, dms. ....lb.	5.00	5.60
Diphenylmethane 4,4,-di-isocyanate, polymeric, bulk, c.l., min. frt. alld. ....lb.	.91	-
Dipropylene glycol, tanks, frt. alld. ....lb.	.45	-
Dipropylene glycol monomethyl ether, dms., c.l., divd. ....lb.	.54	-
tanks, same basis. ....lb.	.46	-
Di-o-tolylguanidine, powd., dms., t.l., frt. alld. ....lb.	2.92	-
Di-o-tolylthiourea, tech., solid, dms., t.l., frt. alld. ....lb.	3.11	-
Ditridecyl phthalate, tanks, divd. ....lb.	.60	.63
Diundecyl phthalate, tanks, divd. ....lb.	.59	-
Divinylbenzene, 100% basis, tanks works ....lb.	2.75	2.80
dms, 100% basis ....lb.	3.00	2.70
l-Dodecanol, syn., tanks, f.o.b. ....lb.	.76½	-
Dodecenyl succinic anhydride, dms., c.l., t.l., divd. ....lb.	.88	-
Dodecylbenzene (see Detergent Alkylate).		
Dodecylphenol, tanks, min. frt. alld. E ....lb.	.48	.53
Dyes, coaltar, certified colors for food, drugs and cosmetics, 100 lb. and over, frt. prepaid or alld.		
Blue, FD&C. No. 1 ....lb.	21.20	22.80
No. 2 ....lb.	29.15	29.22
Green, FD&C, No. 3 ....lb.	49.50	65.00
Red, FD&C, No. 3 ....lb.	24.00	24.50
Yellow, FD&C, No. 5 ....lb.	7.46	7.85
No. 6 ....lb.	6.45	6.75
Dyes, coaltar, certified colors for drugs and cosmetics. 100-lb. lots divd.		
Green, D&C, No. 5 ....lb.	38.50	-
No. 6 ....lb.	42.80	-
Red, D&C, No. 4 ....lb.	18.85	-
No. 17 ....lb.	38.90	-
No. 19 ....lb.	38.25	-
No. 22 ....lb.	12.45	-
No. 28 ....lb.	59.95	-
No. 33 ....lb.	48.95	-
Yellow, D&C. No. 7 ....lb.	21.00	-
No. 8 ....lb.	20.55	-
No. 10 ....lb.	48.80	48.85
No. 11 ....lb.	35.25	-
Dyes, coaltar, for general use in cloth and paper dyeing (by Color Index Name). f.o.b. works		
A Blk 1 Blue black ex. conc. ....lb.	5.75	-
Dyes, A Bl 9 Blue 2G ....lb.	5.46	-
A Bl 45 Alizarine Blu SAP 150% ....lb.	19.85	-
A Bl 90 Alizarine Br. Cy G ....lb.	14.13	-
A Bl 113 Navy 5R. ....lb.	6.55	-
A Gr 16 Gast 2G 333% ....lb.	22.12	-
A Or 7 11 ....lb.	3.72	-
A Or 8 RO Ex. Conc. ....lb.	4.00	-
A Or 10 Wool Or G ....lb.	4.30	-
A Or 74 Metallized Or GNA ....lb.	6.15	-
A R 2G ....lb.	5.13	-
A R 14 Azo Rubine 133% ....lb.	8.85	-
A R 18 Scarlet 4R Conc. ....lb.	5.45	-
A R 88 Fast Red A. Conc. ....lb.	6.85	-
A R 151 Silk Red 3B Conc. ....lb.	4.50	-
A V 17 5BNS Conc. ....lb.	9.75	-
AV 49 4BNS Conc. ....lb.	12.22	-
A Y 17 Fast Light Yell 2G. ....lb.	5.69	-
A Y 23 Tartrazine Ex Conc. ....lb.	6.18	-
B Bl 9 Zinc Free ....lb.	16.40	-
B Br 4 Bismark Brown R Ex. Conc. ....lb.	4.42	-
B G 1 Jade Crystals ....lb.	9.55	-
B Gr 4 Malachite Green Crystal. ....lb.	6.90	-
B V 1 Methyl Violet Crystals. ....lb.	6.80	-
B V 10 Rhodamine B Ex. ....lb.	10.95	-
B Y 2 Bond Yell SFA 150% ....lb.	10.10	-
D Bl 1 Sky Blue 6B Conc. ....lb.	4.62	-
Ex. Conc. 300% ....lb.	9.25	-
D Bl 8 Azurine G Conc. ....lb.	9.46	-
D Blk 22 Fast Black GR ....lb.	2.85	-
Fast Black GR 150% ....lb.	4.28	-
D Br 230 Resin Fast Brown BRNB 200% ....lb.	7.23	-
D Gr 26 Resin Fast Green GL ....lb.	9.15	-
D R 2 4B Ex. Conc. ....lb.	7.98	-
D R 31 Brilliant-Red 12B Conc. ....lb.	6.16	-
D R 80 Fast Red 8BLN ....lb.	8.15	-
D R 81 Paper Red 8BLP ....lb.	6.85	-
D R 251 Fast Scarlet AV ....lb.	6.25	-
D Or 102 Fast Orange WSP Liq. ....lb.	2.47	-
WS. Conc. 150% ....lb.	11.25	-
D Y 4 Brilliant Paper Yell 3GX 125% ....lb.	4.69	-
Brilliant Paper Yell 3GX Liq. ....lb.	1.75	-
D Y 11 Stilbene Yellow GA. Ex. Conc. ....lb.	3.03	-
D Y 41 Fast Yellow RGL Conc. 200% ....lb.	9.75	-
D Y 27 Resin Fast Yellow L5G ....lb.	14.40	-
Dis R 1 Scarlet BA ....lb.	4.26	-
Dis R 91 Pink REL 200% ....lb.	21.00	-
Dis Y 3 Yellow G ....lb.	3.65	-
Dis Y 54 Yellow 3G ....lb.	6.64	-
Dis Or 3 Orange GRA ....lb.	4.91	-
Dis Or 37 Orange OB ....lb.	3.77	-
Dis V 1 4RN Paste ....lb.	7.85	-
Dis V 26 Bordeaux BV 200% ....lb.	17.25	-
Dis B1 27 Blue BGLF ....lb.	10.05	-
Dis B1 102 Blue GFDA 300% ....lb.	22.80	-
50% Paste ....lb.	4.10	-
V G 1 Jade Green Double Paste ....lb.	5.50	-
V Blk 25 Olive TA Paste ....lb.	5.85	-

E

Endrin, tech., 95-99%, dms., t.l. ....lb.	7.00	-
Ephedrine, syn. anhyd., USP, 80-oz. lots ....oz.	1.25	-
Ephedrine hydrochloride, NF, cryst., less than 1,000 kg. ....kilo	38.25	40.25
Ephedrine sulfate, USP, cryst. dms., less than 1,000 kilos ....kilo	43.00	45.25
Epichlorohydrin, tanks, divd. ....lb.	.88	-
Epinephrine base, syn., USP, bots., 100-gram lots ....gram	.60	-
Epoxy resin, liquid, bulk tanks, divd. ....lb.	1.31	1.41
Solid, bgs., t.l. ....lb.	1.28½	1.33½
Epsom salt (see Magnesium sulfate).		
Erythorbic acid, powd., gran., 100 lb. dms., t.l. or mixed t.l. f.o.b. works ....lb.	4.10	4.25
Ester gum, gum-rosin type, dms., c.l., divd., Ill., Md., Ky., E. States, Minneapolis, N.C., Ohio, St. Louis, St. Paul, Va., W. Va. ....lb.	.75	-
Ester gum, wood-rosin type, dms., c.l., same basis ....lb.	.43	.46
Ethyl acetate, syn., 85-88%, tanks, divd ....lb.	.41	.41½
99%, tanks, divd ....lb.	.41½	.42½
Ethyl acetoacetate dms., c.l., divd. ....lb.	1.13	-
tanks, divd. ....lb.	1.05	-
Ethyl acrylate. tanks, frt alld ....lb.	.66	-
Ethyl alcohol, syn., 190 pf., USP tax free, tanks, divd. E. ....gal.	1.55	-
Ethyl alcohol, absolute, 200 pf., tax free prices 12c. higher than 190 pf., tax free.		
Ethyl alcohol, fermentation, tanks, f.o.b. works ....gal.	1.06	1.28
Price range attributable to various state tax incentives.		
Ethyl alcohol, denat. (see Denatured alcohol, ethyl).		
Ethyl p-aminobenzoate, NF (see Benzocaine).		
Ethyl benzoate, dms. ....lb.	1.35	1.50
Ethyl bromide, tech., 98%, dms., c.l., frt. alld. E. ....lb.	.76	-
Ethyl butyrate, dms. ....lb.	1.35	1.50
Ethyl cellulose, standard vis., 7 cps. bgs., t.l., frt. equald. E. ....lb.	4.55	-
standard vis., 10, 20, 45, 100 cps., t.l., frt. equald. E. ....lb.	4.17	4.22
medium vis., 50, 70, 100 cps., t.l., frt. equald. E. ....lb.	4.25	-
USP vis., 7 cps bgs., t.l., frt. equald. E ....lb.	4.88	-
USP 10,20,45,100 bgs., t.l., frt. equald. E ....lb.	4.59	4.69
VSP (medium) 50,70,100 bgs., t.l., Frt. equald. E. ....lb.	4.51	-
Ethyl chloride. tech., cyls., frt. alld. ....lb.	.28	.28½
tanks, frt. alld. ....lb.	.24	.26½
Ethyl cinnamate, dms. ....kilo	41.00	-
Ethyl ethanolamines, mixed. dms., t.l., divd. E. ....lb.	1.23	-
tanks, divd. E. ....lb.	1.15	-
Ethyl ether, refined, tanks, f.o.b. ....lb	.46	-
Ethyl hexanoate, dms. ....lb.	4.25	4.75
2-Ethylhexoic acid, dms., c.l., t.l., divd. E. ....lb	.63	-
tanks divd. E. ....lb.	.57	-
2-Ethylhexyl acrylate, straight or mixed, tanks, frt. alld. E. ....lb.	.79.5	-
2-Ethylhexyl alcohol, tanks, divd. ....lb	.35	-
Ethyl iodide, cbys., works ....lb	6.25	-
Ethyl linalool, syn. 55-gal. dms. ....lb.	10.60	-
Ethyl linalyl acetate, syn., 55-gal. dms. ....lb.	10.85	-
Ethyl methacrylate, tanks, frt. equald. ....lb.	1.06	-
n-Ethyl morpholine, dms., t.l., frt. alld. ....lb.	2.00-	
tanks, same basis. ....lb.	1.92	-
n-Ethyl-a-naphthylamine, dms., works. ....lb.	1.04	-
Ethyl oxalate (see Diethyl oxalate).		
Ethyl parathion (see Parathion, ethyl).		
Ethyl silicate dist. (see Tetraethyl orthosilicate).		
Ethyl silicate, 40% available SiO_2, dms., t.l., f.o.b. works. ....lb.	1.45	1.46
tanks, f.o.b. works. ....lb.	1.39	-
N-Ethyl-m-toluidine, tech., liq., dms., c.l., f.o.b. ....lb.	3.18	-
tanks, same basis. ....lb.	3.10	-
N-Ethyl-o-toluidine, dms. ....lb.	2.85	2.90
Ethyl vanillin 100 lb. dms., 500 lbs. or more ....lb.	13.50	-
25 lb. dms., 500 lbs. or more ....lb.	13.75	-
100 lb. dms., less than 500 lbs. ....lb.	14.00	14.50
Ethylamine (see Mono-Di- and Tri-)		
N-Ethylaniline, dms., c.l., t.l., f.o.b. works ....lb.	1.66	-
tanks, same basis ....lb.	1.58	-
Ethylbenzene, bulk, f.o.b. Houston, Tex. ....lb.	.22	.23
Ethylene, contract, divd. ....lb.	.18	.18½
Ethylene brassylate, dms. ....lb.	16.00	18.25
Ethylenediamine, 99%, tanks, f.o.b. works. ....lb.	1.30	1.305
Ethylenediamine dihydriodide ....lb.	7.55	9.25
Ethylenediamine tetraacetic acid, tetrasodium salt, soln., t.c., t. t., frt. equald. ....lb.	.36½	-
Ethylene dibromide dms., c.l., frt., equald. ....lb.	.38	.46
tanks, frt. equald. ....lb.	.32	.42
Ethylene dichloride, tanks, f.o.b. works. ....lb.	.17	.17¼
Ethylene glycol, indust., tanks, frt. alld. ....lb.	.31	-
Ethylene glycol, monobutyl ether, tanks, divd. E. ....lb.	.41½	-
Ethylene glycol monoethyl ether, tanks, divd. E. ....lb.	.51	-
Ethylene glycol monomethyl ether, tanks, divd. E ....lb.	.34	-
Ethylene glycol monobutyl ether acetate, tanks, frt. alld. E. ....lb.	.64½	-
Ethylene glycol monoethyl ether acetate, tanks, ft. alld., E. ....lb.	.55½	-
Ethylene glycol monomethyl ether acetate, tanks, frt. alld. E. ....lb.	.43	-
Ethylene oxide, tanks f.o.b. ....lb.	.35	.45
Ethylene trichloride (see Trichloroethylene).		
Eucalyptol, NF, dms. Portuguese ....kilo.	7.50	-
Eucalyptus oil, Portuguese NF, rectified, 70-75%, dms ....kilo	5.60	-
NF, rectified, 80-85%, dms ....kilo	6.25	-
Eugenol, USP, dms. ....kilo	7.55	-

F

Fennel oil, sweet, USP, cns. ....kilo	9.00	-
Fennel seed, Egypt ....lb.	.33	-
Indian ....lb.	.57	.60
Fenugreek seed, Indian, bgs. ....lb.	.25	.32
Ferric chloride anhyd., tech., 350-lb. dms., c.l., works ....100 lbs.	36.00	-
Ferric chloride, 42 Be. photo grade dms., c.l., works ....100 lbs.	9.10	-
Ferric chloride, sewage grade, 100 percent basis, f.o.b. works, tank works ....ton	176.00	255.00
Ferric nitrate, cryst., dms., t.l., f.o.b. ....lb.	.64	-
Ferric oxalate, tech., gran., 50-lb. dm., f.o.b. works ....lb.	1.65	-
Ferric oxides (see Iron Oxides).		
Ferric phosphate, FCCg insoluble powder, dms, 10,000 lbs. ....lb.	1.10	1.15
Ferric pyrophosphate, soluble, purif., pearls, 50-lb. dm. ....lb.	1.11	-
Ferric resinate, precip., 6.75% Fe. dms., ton lots frt. alld ....lb.	.45	-
Ferric sulfate, partly hydrated, 100-lb. bgs., c.l., works ....ton	141.00	-
bulk, works ....ton	117.00	-
Ferric ammonium citrate, NF, brown, green gran. 100 lb. dms., 2,000 lb. min., f.o.b. shipping pt. ....lb.	2.00	2.95
2c. per pound surcharge for shipments W. of Denver		
Ferric-ammonium oxalate, fine gran., 250-lb. dms., t.l., f.o.b. works. E. ....lb.	.42	-
Ferric hydroxyethylene diaminetriacetic acid, industrial grade, sodium salt, soln., 4.5% Fe, t.c., t.t., f.o.b. works ....lb.	.55	-
agricultural grade, sodium salt solution, 5% Fe, t.c., t. t., f.o.b. works ....lb.	.64	-
Ferrous fluoborate liq. conc., dms., t.l., works, frt. equald. ....lb.	.64	-
Ferrous gluconate, NF, t.l., works E. ....lb.	2.25	-
Ferrous naphthenate, liq., 6%, Fe, dms., divd. ....lb.	1.17	-
Ferrous sulfate, moist, bulk, t.l. f.o.b. works ....ton	30.00	-
heptahydrate, gran., bulk, t.l., f.o.b. works ....ton	145.00	150.00
monohydrate, gran., bulk., t.l., f.o.b. works ....ton	170.00	180.00
USP, powd., 400-lb. dms. ....lb.	.49	-
cryst., 250-lb. dms. ....lb.	.61	-
Fir oil, Canada dms. ....lb.	10.20	-
Siberia, dms. ....lb.	8.75	.75
Fish oil, refd., alkali, tanks, c.l. ....lb.	.29	-
kettle-bodied, tanks. ....lb.	.32	.36
light, cold-pressed, dms., c.l. ....lb.	.34	-
tanks ....lb	.26	-
Fishmeal, dom., menhaden, 60% protein grd., bulk, f.o.b. Atlantic port ....ton	295.00	-
f.o.b. Gulf port ....ton	290.00	-
Imp., Chilean, 65% protein min., bulk, c.l., t.l., ex whse., f.o.b Atlantic and Gulf ports ....ton	285.00	-
Fluoboric acid, dms., t.l., works, frt. equald ....lb.	70	-
Fluorocarbon, No 11 bulk, tanks, dolvd. ....lb	57	64
No 12, bulk, same basis ....lb.	.68	.74
No 22, bulk, same basis ....lb	1.05	1.14
No. 113, bulk, same basis ....lb.	.89	93½
No. 114, bulk, same basis ....lb.	1.02	1.08
Fluosilicic acid (see Hydrofluosilicic acid).		
Formaldehyde, 37% methanol free (uninhibited) divd., gulf ....lb.	.086	.0905
44-45% (1% methanol) tanks, divd. ....lb.	.1015	.1065
37% (inhibited 7% methanol, divd. ....lb.	.0945	.1025
37% (inhibited 11-15% methanol) tanks, divd. ....lb.	.1055	.1080
Formamide, tanks, f.o.b. ....lb.	.39	-
dms., same basis ....lb.	.44	-
Formic acid 90% tanks, f.o.b. works. ....lb.	.36½	-
95% dms., c.l., works ....lb.	.51½	-
Fructose, cryst., 18,000 kilos or more, dms. ....lb.	.90	1.03
Fumaric acid, food grade, bgs. t.l., frt. equald. E. ....lb.	.75½	.77½
tech. grade, bgs., t.l., f.o.b. frt. equald. ....lb.		.62½
Furfural, tanks, f.o.b. Cedar Rapids, Iowa, and Belle Glade, Fla. ....lb.	.75	-
Furfuryl alcohol, tanks, f.o.b. Memphis, Tenn. and Omaha, Neb. ....lb.	.72	-

G

G salt, dms., frt. alld. 100% basis ....lb.	2.30	-
Gallic acid, 400-kilo lots ....kilo	23.05	-
Garlic oil, dms., Egyptian ....kilo	85.00	105.00
Gelatin, edible, 100 AOAC test, dms., l.t.l., divd. ....lb.	1.50	1.75
125 AOAC test, dms., l.t.l. ....lb.	1.75	1.85
150 AOAC test, dms., l.t.l. ....lb.	1.85	1.95
175 AOAC test, dms., l.t.l. ....lb.	1.95	2.05
200 AOAC test, dms., l.t.l. ....lb.	2.05	2.15
225 AOAC test, dms., l.t.l. ....lb.	2.10	2.25
250 AOAC test, dms., l.t.l. ....lb.	2.20	2.35
275 AOAC test, dms., l.t.l. ....lb.	2.30	2.45
300 AOAC test, dms., l.t.l. ....lb.	2.50	2.65
Gentian violet (see Methyl rosaniline chloride).		
Geraniol, syn., 90-92%, dms. ....lb.	5.25	-
nat., 90-92%, dms. ....lb.	3.50	-
syn. 96-98%, dms. ....lb.	5.75	-
Geranium oil, Moroccan ....lb.	24.00	27.50
Bourbon ....lb.	33.00	36.00
Chinese ....kilo	70.00	85.00
Egypt ....lb.	53.00	-
Turkish (see Palmarosa oil).		
Geranyl acetate, dms. ....lb.	5.44	6.00
nat., dms. ....lb.	10.95	-
Geranyl formate, syn., dms. ....lb.	6.60	-
nat., dms. ....lb.	15.95	-
Gilsonite, g.p., bulk, c.l., f.o.b. Bonanza, Utah ....ton	180.00	-
selects, same basis ....ton	180.00	-
Ginger, Cochin, bgs. ....lb.	.65	-
Chinese sliced ....lb.	.55	.70
Ginger oil, African, dms. ....lb.	75.00	-
Indian ....kilo	70.00	85.00
Ginger oleoresin, NF, bots. ....lb.	30.00	-
Glauber's salt (see Sodium sulfate).		
Gluconic acid tech. 50% dms., c.l., t.l., f.o.b. works ....lb.	.60	-
tanks, same basis ....lb.	.44	-

CHEMICAL PRICES

WEEK ENDING AUGUST 1, 1986

Glue, bone, extracted, green, jellygrams, bgs., c.l. ....lb.	-	-
85 jellygrams, bgs., c.l., f.o.b. ....lb.	.86	-
115 jellygrams, bgs., c.l., f.o.b. ....lb.	.78	-
135 jellygrams, bgs., c.l., f.o.b. ....lb.	.77	-
164 jellygrams, bgs., c.l., f.o.b. ....lb.	.79	-
192 jellygrams, bgs., c.l., f.o.b. ....lb.	.87	-
220 jellygrams, bgs. c.l. f.o.b. ....lb.	.93	-
Glue, hide,		
108 jellygrams, bgs., t.l., f.o.b. ....lb.	.80	-
135 jellygrams, bgs., t.l., f.o.b. ....lb.	.85	-
164 jellygrams, bgs., t.l., f.o.b. ....lb.	.90	-
192 jellygrams, bgs., t.l., f.o.b. ....lb.	.95	-
222 jellygrams, bgs., t.l., f.o.b. ....lb.	1.00	-
251 jellygrams, bgs., t.l., f.o.b. ....lb.	1.05	-
283 jellygrams, bgs., t.l., f.o.b. ....lb.	1.10	-
315 jellygrams, bgs., t.l., f.o.b. ....lb.	1.15	-
347 jellygrams, bgs., t.l., f.o.b. ....lb.	1.20	-
379 jellygrams, bgs., t.l., f.o.b. ....lb.	1.25	-
411 jellygrams, bgs., t.l., f.o.b. ....lb.	1.30	-
444 jellygrams, bgs., t.l., f.o.b. ....lb.	1.35	-
477 jellygrams, bgs., t.l., f.o.b. ....lb.	1.40	-
Glutamic acid, 99½% dms., 100-lb. lots, frt. alld. ....kilo	6.65	-
Glycerine, nat., refd., USP, CP 99½% tanks, divd. ....lb.	.89½	-
USP, CP, nat. 96%, tanks, divd. ....lb.	.87¼	-
Syn. 96%, tanks divd. ....lb.	.89¼	-
Syn. 99.5%, tanks divd. ....lb.	.91	-
Glycine (see Aminoacetic acid).		
Glyceryl guaiacolate. 100-lb. fib. dms. f.o.b. ....kilo	14.50	-
Glycolic acid (see Hydroxyacetic acid)		
Glyoxal 40% soln., bulk, tanks, divd. ....lb.	.44½	-
Grapefruit oil, Fla., dms. ....lb.	1.25	1.40
Calif., dms ....lb.	3.45	-
Israeli ....lb	1.40	2.00
Graphite, amorph powd., bgs., dms ex whse ....lb	.16	.40
cryst., 88-90%, powd., bgs., dms ex whse ....lb	.30	.60
Graphite, cryst., 90-92%, powd., bgs dms., ex whse ....lb	.40	.75
95-96% powd., bgs., dms., ex whse ....lb	.60	.90
Graphite, amorph., cryst., 97% and up, powd., bgs., dms., ex whse. ....lb.	.80	1.20
Graphite, flake, No. 1, 90-95%, bgs., dms., ex whse. ....lb.	.65	.75
No. 2, 90-95%, bgs., dms., ex whse. ....lb.	.65	.75
Grease (See Oils, Fats & Waxes market report)		
Grease oil (See Lard oil).		
Guaiacol, tech., 500-lb dms., 24,000 lb. min., f.o.b. Wallingford, Conn. ....lb.	2.70	-
NOTE: Purified grades are 10c. higher		
Guaiacwood oil, dms. ....lb.	2.50	-
Guar gum, edible, bgs., c.l., f.o.b. ship't. pt. ....lb.	.60	.75
Indust., bgs., high viscosity, c.l., same basis ....lb.	.50	.65

H

Heliotropin, dms. ....lb.	8.00	8.25
Hemlock oil (see Spruce oil).		
Henbane leaves, bls. ....lb.	.55	-
Heptachlor dms., c.l., t.l., frt. alld., 100% basis ....lb.	4.55	-
Heptane, indust., tanks, f.o.b. Beaumont, Tex. ....gal.	1.07	-
95%, tanks, f.o.b. Houston, Tex. ....gal.	1.18	-
Heptanoic acid, syn., tanks, f.o.b. ....lb.	.85	-
l-Hexadecanol, syn., tanks, f.o.b. ....lb.	.43½	-
Hexahydrophthalic anhydride, tech. dms., l.t.l., f.o.b. works ....lb.	1.42	-
Hexamethylenetetramine, gran. bgs., c.l., t.l., works ....lb.	.55	-
gran. dms., c.l., t.l., works ....lb.	.59	-
pdr. bgs., c.l., t.l., works ....lb.	.60	-
powd. dms, c.l., t.l., works ....lb.	.63	-
Hexane, indust., tanks, works ....gal.	1.01	1.15
95%, tanks, f.o.b. Houston, Tex. ....gal.	1.12	-
l-Hexanol, syn., tanks, f.o.b. ....lb.	.50	-
Hexyl alcohol, mixed isomers, tanks ....lb.	.32	-
p-Hexyl methacrylate, dms., c.l., works ....lb.	.75½	-
Hexylene glycol, tanks, divd. ....lb.	.60	-
Hexylresorcinol, USP, dms., 25-lb. lots or more, frt. alld. ....lb.	30.00	-
Homatropine hydrobromide, USP, 10-100-oz. lots, bots. ....oz.	10.25	11.30
Homatropine methylbromide, USP, 10-250 oz. lots, bots. ....oz.	9.70	10.70
Horehound herb, bls. ....lb.	.25	.28
Hydrazine hydrate, 85%, t.t., frt. alld. ....lb.	1.54	-
55-gal. dms, t.l., frt. alld. ....lb.	1.61	-
Hydriodic acid, purif., 47%-57%, 2-cbys., f.o.b. works ....lb.	7.50	-
Hydroabietyl alcohol, tech., solid, dms., c.l., f.o.b. zone 1 ....lb.	.65	-
tanks, f.o.b. zone 1. ....lb.	.60	-
Hydrobromic acid, 48% dms., c.l., t.l., f.o.b. ....lb.	.38½	-
Hydrochloric acid, anhyd. (see Hydrogen chloride).		

CHEMICAL PRICES

WEEK ENDING AUGUST 1, 1986

Hydrochloric acid, 20° Be, tanks, works, East ... ton	55.00	65.00
Midwest ... ton	60.00	70.00
Gulf Coast ... ton	57.00	-
West Coast ... ton	90.00	105.00
22° acid, same basis, East ... ton	68.00	78.00
Midwest ... ton	68.00	70.00
Gulf Coast ... ton	63.50	-
West Coast ... ton	100.00	115.00
NOTE: Prices vary and are either freight collect freight equalized depending on producer and location.		
Hydrocortisone acetate, micronized, dms., 25 kilos or more . gram.	.70	-
Hydrocortisone, alcohol, micronized, dms., 25 kilos or more . gram.	.70	-
Hydrofluoric acid, anhyd. (see Hydrogen fluoride)		
Hydrofluoric acid, aqueous. 70% tanks., f.o.b. frt. equald ... 100lbs.	43.00	-
Hydrofluosilicic acid, 15-gal. dms., t.l., works, 30% basis ... ton	151.00	-
tanks, 100% basis, works ... ton	100.00	140.00
Hydrogen bromide, anhyd. cyls., extra, 30,000-lbs., f.o.b. works . lb.	7.00	-
Hydrogen chloride, anhyd., 50-lb. cyls., c.l., works ... lb.	.65	-
600-lb. cyls., c.l., same basis . lb.	.62	-
Hydrogen chloride, anhyd., tube trailers, seller's trailer, min. 100,000 lbs. a year ... lb.	.37	-
tube trailers, buyer's trailer ... lb.	.27	-
Hydrogen chloride anhyd., tanks, works ... ton	270.00	-
Hydrogen cyanide, liq., 99.5%, tanks, works ... lb.	.50	-
Hydrogen fluoride, anhyd., tank cars c.l., f.o.b., frt. equald ... lb.	.6875	-
Hydrogen peroxide, 35% tech., tanks, works, frt. equald ... lb.	.2325	-
50% tankcars, frt. equald ... lb.	.3225	-
70%, tankcars frt. equald ... lb.	.45	-
Hydrogen sulfide, liq., 99.25% min. seller's tanks, works ... lb.	.12	.13
170 lb. cylinders ... lb.	2.27	-
Hydroquinone, photo grade, consumers. c.l., t.l., divd ... lb.	2.54	-
tech., dms. c.l., divd ... lb.	1.95	-
Hydroxyacetic acid, tech., 70%, tanks, Belle, W. Va. ... lb.	.49½	-
Hydroxylammonium sulfate, dms., t.l., f.o.b. ... lb.	.83	-
p-Hydroxybenzene sulfonic acid (see p-Phenolsulfonic acid).		
Hydroxybutyl methylcellulose (visc. 12,000 cps.) 50 lb. bags, tl., cl. 30,000 lb. min., divd., zone 1 ... lb.	2.10	-
Hydroxycitronellal dimethyl acetal, dms. ... lb.	16.55	-
p-Hydroxydiphenylamine, dms., t.l., f.o.b. works ... lb.	4.10	-
Hydroxycitronellal, natural, dms. ... lb.	9.40	-
pure, dms. ... lb.	13.60	-
extra grade, dms. ... lb.	14.80	-
syn., dms. ... lb.	9.50	-
Hydroxyethyl cellulose, t.l., divd ... lb.	2.07	2.12
Hydroxyethyl methylcellulose (visc. 5,000 through 45,000 cps.) 50 lb. bags, t.l., c.l., 30,000 lb. min., divd., zone 1 ... lb.	2.73	-
Hydroxypropyl methylcellulose, premium, U.S.P. (visc. 4,000 through 15,000) 50 lb. bags, t.l., c.l., 30,000 lb. min., divd., zone 1 ... lb.	2.87	-
Hydroxypropyl methylcellulose, U.S.P (visc. 50 through 100 cps) 50 lb. bags, t.l., c.l., 30,000 lb. min., divd., zone 1 ... lb.	2.99	-
Hydroxypropyl methylcellulose (visc. 4,000 through 15,000 cps) 50 lb. bags, t.l., c.l., 30,000 lb. min., divd., zone 1 ... lb.	2.17	-
Hydroxypropyl methylcellulose (visc. 50 through 100 cps) 50 lb. bags, t.l., c.l., 30,000 lb. min., divd., zone 1 ... lb.	2.64	-
8-Hydroxyquinoline (see Oxyquinoline)		
Hypophosphorous acid, purif., 50% dms., c.l., works ... lb.	3.15	-

I

Ichthammol, NF, 200-kilo dms. ... lb.	4.25	4.50
Iminodiacetic acid, 96% min., dms., c.l., t.l., works ... lb.	3.00	-
Indole, dms. ... lb.	25.50	-
Inositol, 50-kilo dms., 1000 kilos or more, f.o.b. works ... kilo	17.50	22.00
Iodine, crude, dms. ... kilo	13.50	18.00
Iodine USP ... lb.	14.21	14.59
Iodochlorhydroxyquin, USP, XVI 50-kilo dms., 100-499 kilos, frt. alld. ... kilo.	35.00	45.00
Iodoform, NF, dms., 300-lbs., f.o.b. works ... lb.	24.00	-
a-Ionone, dms. ... lb.	18.20	-
b-Ionone, dms. ... lb.	13.10	-
Ipecac root, whole, bgs. ... lb.	25.00	-
Irish moss, bleached, prime, whole ... lbs.	.55	.60
Iron blue, alkali-resistant, bgs., l.c.l., ton lots, div. E. ... lb.	2.70	-
Iron blue, reg., bgs., l.c.l., ton lots, same basis ... lb.	2.00	2.15
Iron, purif., powd., pails, 10-100-lb. lots ... lb.	1.00	-
Iron oxide, black, syn., bgs., c.l., frt. equald ... lb.	.38¼	.44
Iron oxide, brown, syn., bgs., c.l., frt. equald ... lb.	.36	.44¼
Iron oxide, metallic brown, l.c.l., bgs., frt. equald ... lb.	.13	.15
Iron oxide, nat., red., dom., pure, bgs., c.l., works ... lb.	.435	-
Iron oxide, yellow, ... lb.	.18	-
syn., bgs., c.l., frt. equald. .. lb.	.4275	-
Iron oxide, buff, nat., dom, bgs., c.l., t.l., works, light ... lb.	.055	-
dark ... lb.	.044	-
other shades, bgs., c.l., frt. equald ... lb.	.34½	.36½
Isatoic anhydride, bgs., f.o.b. works lb.	1.40	-
Isoamyl alcohol, 95% tanks, frt. alld ... lb.	1.44	1.48
Isoborneol, 100 lb. dms. ... lb.	7.25	-
Isobornyl acetate, dms. ... lb.	.80	1.15
Isobutyl acetate, solvent grade, tanks, frt. alld ... lb.	.45	.48
Isobutyl acrylate, tanks, frt. alld. E. . lb.	.71	-
Isobutyl alcohol, tanks, divd ... lb.	.29	-
Isobutylene, 99%, tanks, f.o.b. works ... lb.	.32	-
Isobutyl isobutyrate, tanks, f.o.b. works ... lb.	.42½	-
Isobutyl methacrylate, tanks, divd . lb.	.87	-
Isobutyl phenylacetate, dms. ... lb.	3.10	3.50
Isobutyl salicylate, dms. ... lb.	3.45	-
Isobutyraldehyde, tech., dms., c.l., divd ... lb.	.43	-
tanks, divd ... lb.	.35	-
Isobutyric acid, dms., c.l., t.l., divd . lb.	No Prices	
tanks, same basis ... lb.	.75	
Isobutyronitrile, dms., c.l., f.o.b. works frt. collect ... lb.	.84	-
tanks, same basis ... lb.	.75	-
Isoeugenol, dms. ... lb.	5.20	5.60
Isoniazid, powd. ... kilo	12.00	-
Isonicotinic acid, hydrazine (see Isoniazid).		
Isononyl alcohol, dms., t.l. ... lb.	.48	-
Iso-octyl alcohol, tanks, divd ... lb.	.44	-
Isophorone, tanks divd ... lb.	.81	-
Isophthalic acid, 99%, bulk, f.o.b., Joliet, Ill., min. frt. alld ... lb.	.46	-
Isophthalonitrile, bgs., t.l., works .. lb.	2.65	-
Isopropyl acetate, tanks, divd ... lb.	.47	-
Isopropyl alcohol, anhyd., 99%, tanks, divd ... gal.	1.38	-
refd., 95%, tanks, divd ... gal.	1.31	-
refd., 91%, tanks, divd ... gal.	1.25	-
Isopropyl ether, tanks, divd ... lb.	.44	-
crude, tanks, divd ... lb.	.37	-
Isopropylamine. (see Mono-, Di- or Tri-).		
Isopropyl myristate, dms., t.l., E. .. lb.	1.19	1.50
Itaconic acid, refd. bgs t.l. ... lb.	1.45	1.48

J

J acid, paste, dms., works, 100% basis ... kilo	4.75	-
Japan wax, cs. ... lb.	5.50	5.60
Jojoba oil, 55-gal. dms., f.o.b. Arizona producing point ... gal.	55.00	60.00
Juniper berry oil, Italian ... kilo	47.00	-

K

Kaolin, water washed, fully calcined, bags c.l., f.o.b. Georgia .. ton	255.00	-
NF pwd., colloidal, bacteria controlled, 50 lb. bags, 5,000 lb. lots ... lb.	.24	-
Kaolin, uncalcined. No. 1 coating, bulk, c.l., f.o.b., Georgia ... ton	94.00	-
No. 2 coating ... ton	75.00	-
No. 3 coating ... ton	73.00	-
No. 4 coating ... ton	70.00	-
filler, gen.l purpose, same basis ... ton	58.00	-
delaminated water washed, uncalcined paint grade 1 micron avg., same basis ... ton	162.00	-
dry-grd. airfloated soft, same basis ... ton	60.00	-
Karaya gum, No. 1, powd., bbls. ... lb.	2.25	-
No. 2, powd., bbls. ... lb.	1.95	-
Kola nuts, bgs. ... lb.	.49½	.51

L

Lacquer diluent petroleum, 140F.-200F. b.r., t.o., New Jersey and New York ... gal.	1.25	-
Houston, Texas ... gal.	1.29	-
Lacquer diluent, petroleum 200F.-240F. b.r., tankcars, New York and New Jersey ... gal.	1.20	1.25
Houston, Tex. ... gal.	1.12	-
Lactic acid, food grade 88%, t.o., f.o.b. works ... lb.	1.06	-
50%, t.o., frt. equald ... lb.	.62	-
tech., 88%, t.o., frt. equald ... lb.	1.03	-
Lactose, edible, reg. bgs., c.l., works ... lb.	.22	.28
Lactose, ferment grade, bgs., c.l., works ... lb.	No Prices	
Lactose, USP, reg. dms., c.l., t.l., frt. equald ... lb.	.55	.69
USP, reg. dms., 10,000-lb. to t.l. lots, frt. equald ... lb.	No Prices	
Lactose, USP, spray dried, bgs., t.l., frt. equald ... lb.	.60	-
bgs., 10,000-lb. to t.l. lots, frt. equald ... lb.	No Prices	

Lake C, red toner. (red 53) bbls., frt alld ... lb	5.70	-
Lanolin, anhyd., cosmetic. 400-lb. dms., works ... lb.	1.18	1.25
pharmaceutical, 400-lb. dms. works ... lb.	1.15	-
tech., (under 2% f.f.a.), 400-lb. dms., works ... lb.	1.08	113
Lard (See Oils, Fats & Waxes market report.)		
Lard oil, No. 1, dms., c.l., f.o.b. ... lb.	.34	-
tanks, same basis ... lb.	.28	-
Lard oil, extra, winter-strained, dms., c.l. ... lb.	.41	-
tanks, same basis ... lb.	33	-
prime, burning, dms., c.l., same basis, Chicago. ... lb.	.43	-
prime, burning, tanks, same basis ... lb.	.35	-
NOTE: 300 Mi. rad. 1¼c. higher, except Texas, 2c., and West Coast, 3c. higher.		
Laurel leaves, Turkish ... lb.	.60	.68
Laurent's acid, drums, f.o.b. ... lb.	3.85	-
Lauric acid, coml., pure bgs., c.l. ... lb.	.65	.71
Lauric aldehyde (aldehyde C-12). dms. ... lb.	7.75	-
n-Lauryl methacrylate, dms., c.l., t.l., works ... lb.	1.72	-
Lavandin oil, Abrialis, 30-32%, dms. lb.	4.00	-
Lavender flowers, ord. ... lb.	.65	.75
medium, bls. ... lb.	.80	.90
select. bls. ... lb.	1.10	1.19
Lavender flower oil, NF, French, 40-42%, ester, cns. ... lb.	9.25	13.50
spike, Spanish, dms. ... kilo	15.00	22.00
Lead acetate, purif., flake. 400-lb. dms., works ... lb.	.46	-
tech., flake, t.l., 400lb. dms., works ... lb.	.37	-
Lead blue, basic, sulfate, bbls., c.l., ship.t. pt., f.o.b. ... lb.	.87	-
Lead carbonate. (see Lead white basic carbonate).		
Lead chloride, 400-lb. dms., works. lb.	3.25	-
Lead dioxide, tech., powd., 200-lb. dms., t.l., works ... lb.	.66	.70
Lead fluoborate, liq. conc., dms., t.l., works, frt. equald ... lb.	.65	-
Lead metal, divd ... lb.	.18	.18½
Lead monosilicate, milled, bgs., c.l., f.o.b. works ... lb.	.58½	-
coarse, bgs., c.l., same basis ... lb.	.57½	-
Lead naphthenate liq., 24% Pb. dms., frt. alld ... lb.	.93	-
Lead nitrate tech., cryst., 400-lb. dms., t.l., works ... lb.	.32½	-
Lead peroxide (see Lead dioxide).		
Lead red, 95% Pb_3O_4, or less, bgs. c.l., works ... lb.	.37	-
Lead red, 97% Pb_3O_4, bgs. c.l., works ... lb.	.37½	-
Lead, red, 98% Pb_3O_4, bgs., c.l., same basis ... lb.	.37½	.40½
Lead silicate (see Lead, white, basic silicate).		
Lead silicochromate, bgs., c.l., works ... lb.	.35	-
Lead sulfate (see Lead, blue, basic sulfate and Lead, white, basic sulfate)		
Lead, white, basic carbonate, bgs., c.l., frt. alld ... lb.	.62	-
Lead, white, basic, silicate, bgs., c.l., same basis ... lb.	.87	-
Lead, white, basic sulfate, bgs., c.l., same basis ... lb.	.85	-
Lecithin, edible, tech., bleached, non-ret. dms., l.c.l., works ... lb.	.36	-
unbleached non-ret. dms., l.c.l., same basis ... lb.	.34	-
edible, tech. bleached, non-ret., dms., t.l., works ... lb.	.28	-
unbleached, non-ret., dms., t.l., same basis ... lb.	.26	-
Lemon oil, Argentina ... kilo	14.00	-
Brazil ... lb.	6.50	7.00
Calif., USP, dms. ... lb.	9.00	9.35
Italian ... lb.	11.50	-
Lemongrass oil, Indian, dms. ... kilo	11.25	-
Guatemalan, dms. ... lb.	2.25	-
dl-Leucine, dms., 1 kilo works. ... kilo	60.00	90.00
Licorice root, whole, bls. ... lb.	.40	.50
gran., bls. ... lb.	.70	.90
powd., bls. ... lb.	.95	-
Lignosulfonate (see under Ammonium or Sodium lignin sulfonate).		
Lime, chemical, pebble (quicklime), bulk, 50,000 lbs., works, f.o.b. plants ... ton	39.00	45.00
Lime, chemical, hydrated, bulk, same basis ... ton	46.00	50.00
bgs., same basis ... ton	54.00	57.00
Lime, NF, purif., 100-lb. dms. ... lb.	.69	-
Lime oil, dist., Mexican, dms. ... lb.	6.00	-
Haitian, dist., dms. ... lb.	8.00	-
expressed, dms. ... lb.	17.50	-
Lime salts (see Calcium).		
d-Limonene, dms. ... kilo	.70	.85
Linalool ex bois de rose oil, dms. ... lb.	6.35	-
syn., 98-100% dms., f.o.b. works .. lb.	2.93	-
Linalool oxide, syn., 55-gal. dm. ... lb.	7.75	-
Linalyl acetate ex bois de rose oil, 90-92%, dms. ... lb.	18.00	21.00
syn. 98-100%, dms., f.o.b. works. lb.	3.10	-
Linalyl benzoate, syn., 55-gal. dms. lb.	8.00	-
Linalyl cinnamate, syn., 55-gal. dms. ... lb.	59.85	-
Linalyl formate, syn., 55-gal. dms. .. lb.	7.75	8.50
Linalyl isobutyrate, syn., 55-gal. dms. ... lb.	6.50	6.55
Lindane, 20% formulation, dms., divd ... gal	13.10	-
99.9% tech., dms., t.l., divd ... lb.	6.50	-
Linalyl propionate, syn., 55-gal. dms. ... lb.	7.90	-
Linden flowers, with leaves, bls. ... lb.	.78	.85
without leaves, bls. ... lb.	.90	1.15
Linseed meal (see Oils, Fats & Waxes market report).		
Linseed oil, (see Oils, Fats & Waxes market report)		
Linseed oil fatty acid, dist., dms. ... lb.	.60	.67
tanks ... lb.	.53	.62
Litharge, coml., powd., bgs., c.l., works ... lb.	.36½	.60
Lithium bromide, anhyd., dms., ton lots, divd ... lb.	6.27	-
soln., same basis. ... lb.	4.00	-
Lithium carbonate, powd., bgs., c.l., t.l., divd. ... lb.	1.50	-
Lithium chloride, anhyd., d.l., t.l., divd ... lb.	3.32	-
soln., dms., c.l., t.l., divd ... lb.	2.94	-
Lithium fluoride, dms., c.l., t.l., divd. lb.	4.90	-
Lithium hydride, c.l. t.l. divd 10,000 or more ... lb	23.50	-
Lithium hydroxide, monohydrate, dms. c.l. t.l. divd ... lb	1.93	-
Lithium hypochlorite, c.l. t.l. works lb	1.07	-
Lithium metal, 1,000 lb. lots or more, divd ... lb	22.70	-
Lithium nitrate, tech., dms., 100-lb. lots ... lb	3.25	-
Lithium stearate, bgs. c.l. frt. alld. lb.	1.01	-
Lithium sulfate anhydrous, t.l. divd lb	3.09	-
Lithol red toner, barium, dms., frt. alld ... lb.	3.27	-
calcium, dms., same basis ... lb	3.50	-
Lithol rubine toner (red 57), resinated, dms., frt. alld ... lb	5.60	-
Locust bean gum, powd., bgs ... lb	6.00	6.75
2,4 Lutidine, dms., t.l., frt. equald kilo	5.75	-
Lycopodium, 50 lb dms. ... lb	8.00	10.00
1-Lysine monohydrochloride, feed grade, 10,000 lbs. divd ... lb	1.35	1.40

M

Mace, East Indian, siftings ... lb	4.60	-
Siauw #2 ... lb	4.80	-
Magnesia, tech, light, neoprene-grade, bgs., c.l., t.l., works lb	.75	.81
Magnesia, syn, tech, chemical-grade, bulk, c.l., t.l. works ... ton	330.00	-
bags, c.l., t.l., same basis. ... ton	365.00	-
deadburned, bulk, same basis ... ton	392.00	-
bgs., same basis ... ton	409.00	-
Magnesia, nat., tech., heavy, 85%, 150 mesh, bulk, c.l., t.l., f.o.b. Nev. ... ton	232.00	-
90%, 325 mesh, same basis ... ton	265.00	-
Magnesium bromide, 80-lb. dms., hexahydrate ... lb.	2.50	-
Magnesium carbonate, light, tech., bgs., c.l., t.l., works, frt equald ... lb	.73	.78
USP, lite bgs., c.l., same basis ... lb	.74	.80
USP, heavy, bgs., c.l., same basis ... lb	.83	-
Magnesium chloride, anhyd., 92%, flake or pebble dms., c.l. works ... lb	12¾	.16
Magnesium chloride, hydrous, 99%, flake, bgs., c.l., works ... lb	14½	-
Magnesium gluconate, 100-lb dms f.o.b. works, E ... lb.	4.25	-
Magnesium hydroxide, NF, powd., dms., c.l., t.l., works frt. equald ... lb	.78	-
Magnesium lauryl sulfate, tanks, f.o.b works ... lb	.22	.26½
Magnesium metal, 99.8%, ingots, 10,000-lb. lots or more f.o.b. Freeport, Tex ... lb.	1.53	-
die casting alloys ... lb	1.29	1.33
Magnesium nitrate, tech., flake 250-lb. dms., t.l., works ... lb	32	-
Magnesium oxide, USP, light, bgs., c.l., works, frt. equald ... lb	1.65	-
heavy, dms., c.l., same basis ... lb.	1.54	-
Magnesium oxide, tech. (see Magnesia)		
Magnesium phosphate, tribasic, tech. 60-lb. bgs., f.o.b ... lb.	1.00	-
Magnesium silicate (see Talc).		
Magnesium silicofluoride, bgs., c.l., t.l. works ... lb	.1645	.1800
Magnesium stearate, bulk, t.l. ... lb.	.95	1.35
Magnesium sulfate 10% Mg. (epsom salts), tech. bgs., t.l., works ... lb.	.14	-
bulk, same basis ... lb.	.13	-
USP, cryst., bgs., same basis . lb.	.13½	-
USP, cryst., bulk, same basis . lb.	.14½	-
Magnesium sulfate, 17% Mg. (synthetic monohydrate), tech. bgs. t.l., works ... lbs.	.60	-
CP, same basis ... lbs.	1.25	-
Magnesium sulfate, anhydrous, CP bgs., t.l., works ... lbs.	1.75	-
Magnesium sulfate trihydrate, tech., bgs., t.l., works ... lb.	.45	-
Magnesium trisilicate, USP, powd., fib. dms. 5,000-lb. lots ... lb.	.38	-
USP, micronized powd., dms., 375-lb. lots ... lb.	.83	-
Malathion, tech., dms., t.l., works. . lb.	1.62	-
Maleic acid, cryst., powd., drums, 100 kilos, f.o.b. ... kilos	3.20	-
drums, tons, f.o.b. ... kilos	2.80	-
Maleic anhydride, bgs., t.l., works, frt. equald ... lb.	.55	.59
tanks, works, frt. equald ... lb.	.53	-
Malic acid, purif. and food grades. 50-lb. bgs., t.l., c.l., divd. ... lb.	.81	.84
Mandarin oil (see Tangerine oil, Italian).		
Mandelic acid, dms., 1,000 kilo lots. ... kilo	8.00	10.00
Manganese acetate, dihydrate, dms., divd ... lb.	.43½	.48
tetrahydrate, dms., t.l., divd. ... lb.	.48	[illegible]
Manganese borate printing ink drier. lb.	1.68	1.80
Manganese borate, tech., dms. ... lb.	.80	.99
Manganese carbonate, chemical grade, 46% Mn. bgs., 20,000-lb. lots or more, works. ... lb.	1.05	[illegible]
Manganese chloride, anhyd., dms., 20,000-lb. lots or more. ... lb.	.61	[illegible]
Manganese dioxide, nat., African, grd., 74%-76% MnO_2, 100-lb. bgs., .l., works ... ton	200.00	380.00
84% MnO_2, same basis ... ton	250.00	[illegible]
Manganese dioxide, syn., cryst., battery grade, 90%-92% MnO_2, 100-lb. bgs., c.l., works. .. lb.	.70	.87½
chemical, ferrite grade, same basis ... lb.	.49	.61
Manganese gluconate, FCC grade, 100-lb dms., f.o.b. works. lb.	3.80	[illegible]
Manganese hydrate dms., divd. ... lb.	.35	[illegible]
Manganese hypophosphite, NF, dms. ... lb.	6.75	[illegible]
Manganese metal, electrolytic, No. 1 chip, bulk, c.l., works. ... lb.	[illegible]	[illegible]
dms., c.l. works ... lb.	[illegible]	[illegible]
Manganese naphthenate, liq., 6% Mn, dms., divd ... lb.	[illegible]	[illegible]
Manganese resinate, fused, 3½% Mn, dms., frt. alld ... lb.	.34¼	-
precip. 6½-7% Mn. dms. ... lb.	.42	-
Manganese sulfate, fertilizer grade, run-of-pile, 75%-78% $MnSO_4$, 25 kilo bgs., 50-ton cars, divd. E. of Miss. ... ton	280.00	-
bulk, hopper cars, same basis .. ton	245.00	-
Manganese sulfate, 28% Mn, gran., bgs., c.l., t.l., works ... ton	330.00	-
Manganese tallate, liq., 6% Mn, dms., frt. alld ... lb.	.60	-
Mannitol, coml., powd., dms., t.l., works ... lb.	3.02	-
Marjoram, French ... lb.	.64	-
Egyptian ... lb.	.46	.78
MBT (see 2-Mercaptobenzothiazole).		
MBTS (see Mercaptobenzothiazyl disulfide).		
MDI (see Diphenylmethane 4,4,-di-isocyanate)		
Melamine, bgs., c.l., t.l., 40,000-lb. min., f.o.b. works ... lb.	.51½	.59½
bulk, c.l., t.l., same basis ... lb.	.50	.58
Melamine-formaldehyde resin, g.p., t.l. frt. alld ... lb.	.55	.60
molding compounds, same basis ... lb.	.46½	-
Menhaden oil, crude, tanks, works Atlantic Coast ... lb.	.14	.15
Gulf ports, same basis ... lb.	.14	.15
Menthol, nat., USP, Brazilian large and regular crystals, spot, cs., bulk ... lb.	6.75	7.50
syn., USP, racemic, 100-450 lbs. lb.	9.00	-
2-Mercaptobenzothiazole, bgs., t.l., works, frt. alld ... lb.	1.25	1.55
Mercaptobenzothiazyl disulfide t.l., dms., works, frt. alld ... lb.	1.33	1.66
Mercuric chloride NF, gran., powd., 100-lb. dms., f.o.b. works .. lb.	6.50	-
Mercuric oxide, red, purif., 100-lb. dms., f.o.b. works ... lb.	7.00	7.25
tech., 100-lb. dms., same basis ... lb.	5.50	7.00
yellow, NF, 100-lb. dms., same basis ... lb.	7.00	7.25
tech., 100-lb. dms., same basis ... lb.	5.50	7.50
Mercurous chloride (see Calomel).		
Mercury, ammoniated (see White precipitate USP XV).		
Mesityl oxide, tanks, divd ... lb.	.46	-
Methacrylic acid, glacial, 99%, dms., t.l., frt. equald ... lb.	.87	-
tanks, works, frt. equald ... lb.	.78	-
d-Methamphetamine hydrochloride, dms. ... lb.	12.00	16.00
dl-Methamphetamine hydrochloride, dms. ... lb.	4.50	7.00
Methanol, syn., tanks, 4,000 gals., f.o.b. producing point, Gulf Coast ... gal.	.52	.71½
Methenamine (see Hexamethylenetetramine).		
Methionine hydroxyanalogue, dry, 86% activity t.l., frt. alld ... lb.	.86	-
liquid, 88% activity. t.l. frt. alld ... lb.	.88	-
dl-Methionine (see Racemethionine)		
Methoxychlor, 50% wettable powder, dealers, dms. ... lb.	2.05	-
Methyl abietate, non-ret. dms., c.l., divd. E. ... lb.	9.40	-
Methyl abietate, hydrogenated, non-ret. dms., l.c.l., same basis ... lb.	10.00	-
Methyl acetoacetate, East, divd. bulk ... lb.	.86	-
Methyl acrylate, tanks, divd ... lb.	68.50	-
Methyl alcohol (see Methanol)		
Methyl amyl alcohol, tanks, divd ... lb.	.55	-
Methyl n-amyl ketone, tks., divd ... lb.	.54½	-
Methyl anthranilate, tech., dms., f.o.b. ... lb.	1.41	2.65
Methyl benzoate, dms., t.l. ... lb.	.25	-
99.9%, perf. grade, dms., t.l. ... lb.	1.65	-
Methyl bromide, dist., tanks, 140,000 lbs. min., frt. alld. ... lb.	.56¼	-
Methylcellulose, premium, USP (visc. 400 through 4,000 cps) 50 lb. bags, tl., cl., 30,000 lb., min., divd., zone 1 ... lb.	2.73	-
Methylcellulose, premium USP (visc. 15 cps) 50 lb. bags, tl., cl., 30,000 lbs., divd., zone 1 .. lb.	2.85	-
Methylcellulose, (visc. 400 through 4,000 cps) 50 lb. bgs., tl., cl., 30,000 lbs., divd., zone 1 .. lb.	2.24	-
Methylcellulose (visc. 15 to 25 cps) 50 lb. bags, tl., cl., 30,000 lb. min., divd., zone 1 ... lb.	2.52	-
Methyl chloride, indust. bulk, tanks, f.o.b. works ... lb.	.26	-
Methyl chloroform (see 1,1,1-Trichloroethane).		
Methyl cinnamate, dms. ... lb.	4.65	-
Methyl p-cresol, dms. ... lb.	6.00	-
Methyl ethyl ketone, tanks, divd, E.. lb.	.235	-
Methyl eugenol, 25-lb. cns. ... lb.	3.55	3.80
Methyl formate, pure, non-ret. dms., works ... lb.	.41	-
tanks, same basis ... lb.	.29	-
tech., tanks, works ... lb.	.31	-
Methyl heptenol, syn., 55-gal. dms. lb.	14.80	-
Methyl heptenone, pure, dms. ... lb.	7.30	-
Methyl heptin carbonate, dms. ... lb.	45.00	-
Methyl p-hydroxybenzoate (see Methylparaben)		
Methyl ionone, std., dms. ... lb.	7.30	9.40
Methyl isoamyl ketone, tanks, divd. E. ... lb.	.61	-
Methyl isobutyl carbinol (see Methyl amyl alcohol).		
Methyl isobutyl ketone, tanks, divd. lb.	.35	-
divd. zone 2 (Calif.) ... lb.	.38	-
divd. zone 3 (W. of Rockies, excluding Calif.) ... lb.	.41	-
Methyl isoeugenol, 25-lb. cns. ... lb.	6.60	10.40
Methyl methacrylate, tanks, divd .. lb.	.62	-
Methyl naphthyl ketone, cryst., dms. ... lb.	14.00	-
Methylparaben, USP, 500 kilograms, f.o.b. ... kilo	10.14	-
tech., 500 kilograms, f.o.b. ... kilo	9.70	-
Methyl parathion, tech., 80%, dms., frt. alld. E. ... lb.	1.65	-
Methyl phenylacetate, dms. ... lb.	3.60	5.40
N-Methyl 2-pyrrolidone, tanks, f.o.b. plant ... lb.	1.26	-
dms., c.l., t.l., same basis ... lb.	1.34	-
Methyl rosaniline chloride, USP, 1-lb. cans ... lb.	5.50	-
Methyl salicylate, NF, 1000-lb. dms., t.l., frt. alld ... lb.	1.79	1.94
Methyl violet (see Methyl rosaniline chloride).		
Methyl violet toner, molybdated, PMA, bbls., divd. E. of Rockies . lb.	3.25	-
Methyl violet toner, tungstated, PTA, bbls., same basis ... lb.	4.70	5.20
4,4,-Methylene dianiline (p,p-di-aminodiphenyl methane) crude, dms., t.l., f.o.b. ... lb.	1.75	-
purif., flake, same basis ... lb.	2.25	-
Methylene di-p-phenylene di-isocyanate (see diphenylmethane 4,4,-di-isocyanate).		
Methylene chloride, tanks, 4,000 gal.-min., consumers, divd ... lb.	.35	-
Methylpentanediol (see Hexylene glycol).		
Methylphenylpryazolone (see 1-Phenyl-3-methyl-pyrazolone-5).		
a-Methylstyrene, f.o.b. shipping pt. . lb.	.44	-
p-Methylnaphthalene, bulk, works gal.	1.38	-
Methylthionine chloride (see Methylene blue).		
Mica, dry-grd., joint cement, plastic, 50 lb., bgs., c.l., works ... lb.	.07½	-
dry-grd., roofing, 20 to 80 mesh, works ... lb.	.07	-
paint or lacq., wet-grd., 325-mesh, bgs., c.l., f.o.b. works ... lb.	.16¾	-
rubber, bgs., c.l., f.o.b. works ... lb.	.16¾	-
wallpaper, bgs., c.l., f.o.b. works. lb.	.22	-
Microcrystalline wax, petroleum, coating grades, FDA, tanks, works ... lb.	.36½	.46½
laminating grades, FDA, tanks, works ... lb.	.38½	.48
Mineral oil, white, 50-65 vis., USP light tanks, refy ... gal.	2.38	-
65-75 vis., tanks, refy ... gal.	2.42	-
80-90 vis., tanks, refy ... gal.	2.45	-
145-155 vis., tanks, refy ... gal.	2.53	-
USP 180-190 vis., tanks, refy ... gal.	2.54	-
200-210 vis., tanks, refy ... gal.	2.56	-
340-350 vis., tanks, refy ... gal.	2.65	-
Mineral spirits, petroleum, odorless, tanks, New Jersey ... gal.	1.83	1.86
Houston, Tex. ... gal.	1.78	1.79
Mineral spirits, petroleum, regular, tanks, New Jersey ... gal.	1.41	1.49
Houston, Tex. ... gal.	1.41	1.43
Molybdate orange, bbls. ... lb.	1.52	1.95
Molybdenum metal, com.l., powd., 99.8%, dms., works ... lb.	13.50	-
Molybdenum trioxide, CP, dms., works, 24,000 lbs, or more. lb.	5.25	-
tech., chemical, dms., 24,000 lbs. or more, basis ... lb.	2.65	2.85
tech. metallurgical, dms. same basis. lb.	2.65	2.85
Molybdic acid (See Ammonium Dimolybdate)		
Monoammonium phosphate, fert. grade, min. 13% N. 52% P. bulk, c.l., f.o.b. Fla. works ... ton	155.00	-
Monoammonium phosphate, tech., bgs., c.l., t.l., works, frt. equald ... 100 lbs.	54.00	-
food grade, bgs., c.l., t.l., same basis ... 100 lbs.	59.25	-
Mono-tert-butyl-m-cresol, bulk, t.l. . lb.	1.69	-
Monobutylamine, bulk, divd ... lb.	.96	1.00
Monochloroacetic acid, purif. (see Chloroacetic acid, mono).		
Monochlorobenzene, tanks, f.o.b. . lb.	.42½	-
Monoethanolamine, tanks, frt. alld. E. ... lb.	.43	.46
Monoethylamine, 70% aqueous tanks, frt. prepaid, 100% basis .. lb.	.94	-
anhyd., tanks, same basis ... lb.	.92	-
Monoisopropanolamine, dms., c.l., frt alld. E. ... lb.	.76	-
tanks, same basis ... lb.	.66	-
Monoisopropylamine, anhyd., dms., c.l., frt. prepaid ... lb.	.79	-
tanks, same basis ... lb.	.76	-
Monomethylamine, anhyd., tanks, contained basis frt. equald ... lb.	.54½	-
25% soln., tanks, frt. alld. 100% basis ... lb.	.57	-
40-60% soln., tanks, frt. equald. 100% basis ... lb.	.63½	-
Monopotassium glutamate, dms., 990 lb. or more; frt. alld ... lb.	2.50	-
Monosodium glutamate, 50-lb. bgs. c.l., t.l., divd ... lb.	.76	.80
100-lb. drums, c.l., t.l., divd ... lb.	.85	-
Monosodium phosphate (see Sodiumphosphate, monobasic).		
Montan wax, crude, imp.; German, lb.	.55	.57
dom., Calif., bgs., c.l., t.l., f.o.b. shipt. pt. ... lb.	.61	-
refd., dom. Calif., same basis ... lb.		
Morphine alkaloid, NF, 25 k lots .. kilo	1018.00	-
Morphine sulfate, USP, 25 k lots .. kilo	850.00	-
Morpholine, dms., c.l., frt. alld. E. .. lb.	1.02	-
tanks, frt. alld., E. ... lb.	.94	-
Muriatic acid (see Hydrochloric acid).		
Musk. syn., ambrette, 25-lb. cns. .. lb.	6.00	7.00
Musk. syn., ketone, dms. ... lb.	10.75	-
Musk. syn., xylol, dms. ... lb.	3.60	-
Mustard oil, syn. (see Allyl isothiocyanate).		
Mustard seed, Brown No. 1 ... lb.	.24	-
Canadian No. 1 Yellow ... lb.	.25	-
Oriental No. 1 bgs. ... lb.	.25	-
Myrcia oil (see Bay oil).		
Myristic acid, coml., pure, t.l., bgs. . lb.	1.30	-
tanks ... lb.	1.12	-
Myristica oil (see Nutmeg oil).		
Myrrh gum, bgs. ... lb.	2.25	-

N

Naphtha, high solvency (see Solvent naphtha, petroleum).		
Naphtha, petroleum, cleaners (see Cleaner's naphtha).		
Naphtha, VM&P, petroleum, tanks, New Jersey and New York ... gal.	1.29	1.34
Houston, Tex. ... gal.	1.20	-
Naphthalene, crude, dom., 78°, tanks, works ... lb.	.22	-
Naphthalene, phthalic anhydride grade, tanks, works ... lb.	.23½	-
Naphthalene, petroleum, 80°C., f.o.b. ... lb.	.30	.32½
Naphthalene, refd., balls, flakes, whole salers, jobbers, dms., works ... lb.	.65	.77
Naphthenic acid, crude, bulk, works lb.	.16	.32
refined, 220 acid, same basis ... lb.	.76	1.00
a-Naphthol, ground, dms., t.l. divd. . lb.	1.81	-
b-Naphthol, tech. flake, 80-lb. bgs., c.l., works ... lb.	1.10	-
Naphthol arylide red toner deep shades, bbls. ... lb.	9.50	-
light shades, bbls. ... lb.	7.75	-
2-Naphthol-3,6-disulfonic acid, disodium salt (see R salt).		
1-Naphthol-5-sulfonic acid (see L-acid).		
1-Naphthol-5-sulfonic 8-amino acid (see S acid).		
Naphthylamine sulfonic mixed acid (see Cleve's acid).		
a-Naphthylamine, tanks, f.o.b. works ... lb.	2.10	-
1-Naphthylamine-5-sulfonic acid (see Laurent's acid).		
2-Naphthylamine-4,8 disulfonic acid (see Cassella acid).		
2-Naphthylamine-1-sulfonic acid (see Tobias acid).		
Neatsfoot oil, 20°F, t.l., f.o.b. works dms. ... lb.	.52	-
tanks, f.o.b. works ... lb.	.47	-
30°F, t.l., f.o.b. works ... lb.	.52	-
tanks, f.o.b. works ... lb.	.44	-
40°F, dms., t.l., f.o.b. works ... lb.	.48	.49
tanks, f.o.b. works ... lb.	.39	-
Delivered prices apply on shipments within 300-mile radius of Philadelphia, Pa.; other areas, 1¼c. higher; Texas, 2c. higher and West Coast 3c. higher.		
Neomycin sulfate, USP, non-sterile, dms., 50-kilo. lots, activity basis, divd ... kilo.	75.00	-
Neopentyl glycol, slurry, 90%, c.l., t.l., divd ... lb.	.522	-
powder, flake, bgs. t.l., divd .. lb.	.598	
Neroli, tech., dms. ... lb.	5.30	5.75
perf. grade, dms. ... lb.	4.60	5.00
Neroli oil, NF French Bigarade, bots ... kilo	1560.00	1650.00
Tunisian, bots. ... kilo	1150.00	-
Nerolidol syn. 55-gal. dms. ... lb.	7.05	-
Nerolin, Bromelin ... kilo	7.22	-
Niacinamide, USP, t.l. dms. ... kilo.	8.00	-
Niacin NF, dms., 5,000 kilos or more, divd. ... kilo	7.50	-
feed-grade, 98-99.5%, bgs., same basis ... kilo.	5.10	5.50
Nickel acetate, dms., 5,000-lbs. to t.l., divd. E. ... lb.	1.82	-
Nickel carbonate, dms., bgs., 5,000-lbs. to t.l., divd. E. ... lb.	3.45	-
Nickel chloride, bgs., 10,000-lbs. to t.l., divd. E. ... lb.	1.19	-
Nickel fluoborate, liq. conc., dms., t.l., divd. E. ... lb.	1.25	-
Nickel metal, electro cathodes, cs., works ... lb.	3.45	-
Nickel nitrate, dms., bgs., t.l., divd E. ... lb.	1.18	-
Nickel oxide, 75%-78% Ni, dms., 500-lb. lots, f.o.b. works ... lb.	2.60	-
Nickel sulfate, bgs., t.l., divd. E. ... lb.	.80	.90
Nicotinic acid (see Niacin).		
Nicotinamide (see Niacinamide).		
Nitric acid, 36° Be., 38°Be, 40°Be. 42°Be. tanks, c.l., works NF, 100% basis ... ton	195.00	-
94½% to 98% HNO_3, tanks, works, 100% basis ... ton	280.00	-
o-Nitroaniline, flake, dms, t.l. works ... lb.	1.51	-
molten, refd., tanks, works ... lb.	1.44	-
molten, tech., works ... lb.	1.37	-
o-Nitroaniline, orange toner, bgs., frt. alld ... lb.	1.90	-
p-Nitroaniline, dms., c.l., t.l., 30,000 lb. min., works ... lb.	1.63	-
o-Nitroanisole, 100-kilo lots ... kilo	8.75	-
Nitrobenzene, tanks, f.o.b. ... lb.	.33	.34
o-Nitrochlorobenzene, dms., t.l., c.l., f.o.b. ... lb.	.82	-
tanks, same basis ... lb.	.74	-
2-Nitro-p-cresol, tech., dms., t.l., frt. alld ... lb.	1.75	-
Nitroethane, tanks, divd. E. ... lb.	2.50	-
Nitrogen solutions, direct application, over 32% N, and mgf. type, works ... unit-ton.	1.20	-
direct application, 19-32% N. ... unit-ton.	1.26	1.46
Nitrogenous sewage sludge, processed, bulk, f.o.b. Chicago. ... unit ton.	4.10	-
NOTE: Price is per unit NH_3 plus $1, per unit a.p.a. bulk, f.o.b. producer.s works, Chicago.		
Nitrogenous tankage, processed, bulk, per unit-ton NH_3, f.o.b. Carrolville, Wisc. ... unit ton	7.00	-
f.o.b. Forbes, Mo. ... unit ton	6.75	-
expanded, bulk, c.l., per unit-ton N, f.o.b. Forrestdale, R.I. unit ton	8.35	-
Nitromethane, dms., t.l., divd. E. ... lb.	2.37	-
o-Nitrophenol, dms., f.o.b. works ... lb.	1.00	-
p-Nitrophenol, dms., c.l., f.o.b. works ... lb.	1.05	1.45
2-Nitropropane, tanks, frt. alld. E. ... lb.	.55	-
m-Nitrotoluene, tech., dms., frt. alld. lb.	1.15	-
o-Nitrotoluene, dms., c.l., f.o.b. ... lb.	.65	-
tanks, same basis ... lb.	.48	.57
p-Nitrotoluene, tech. dms., c.l., works ... lb.	.83	.85
tanks, works ... lb.	.70	-
Nonylphenol, tanks, f.o.b. E. of Rockies, min. frt. alld ... lb.	.49	.53½
Norephedrine hydrochloride (see Phenylpropanolamine hydrochloride)		
Nutmeg oil, dist., East Indian, NF, dms. ... kilo	26.00	27.50
Nutmegs, East Indian, whole ... lb.	2.15	2.25

O

Ochre (see Iron oxide, yellow, nat.)		
Ocotea cymbarum oil dms. ... lb.	2.25	2.30
1-Octadecanol, syn., tanks, f.o.b. .. lb.	.43½	-
1-Octanol, syn., tanks, f.o.b. ... lb.	.70	-
n-Octane, 97% min., tanks, f.o.b. Houston, Tex. ... gal.	6.25	-
Octyl alcohol, perfumer's grade, bots., cns. ... lb.	1.40	1.75
n-Octyl, n-decyl phthalate, tanks, divd ... lb.	.33½	.37
tert-Octylamine, dms., c.l., t.l., works.	2.60	-
Octylphenol, molten, t.d., works ... lb.	.75	.76½
Oiticica oil, liq. dms. ... lb.	.40	-
tanks ... lb.	.38	-
Oleic acid, dbl.-dist., (white), dms. ... lb.	.46	.59
tanks ... lb.	.38	.44
Oleic acid, s.d. (red) dms. ... lb.	.43	[illegible]
tanks ... lb.	.35	[illegible]

CHEMICAL PRICES

WEEK ENDING AUGUST 1, 1986

Oleum (see Sulfuric acid, fuming).		
Olibanum gum, tears, bgs. ... lb.	2.10	-
Olive oil, edible, Spanish, dms. ... gal.	8.50	-
Italian B-type ... gal.	5.75	-
Olivine, crude, works ... ton	12.00	-
20 mesh. works ... ton	15.00	-
100 mesh. works ... ton	20.00	-
Opium, USP, gran. powd. 25-kilo lots ... kilo	125.00	-
Orange oil, expressed, USP, Calif., dms., f.o.b. plant ... lb.	1.20	-
expressed Valencia, dms. ... lb.	1.00	1.20
Calif., dist., cns. f.o.b. plant ... lb.	.40	-
Florida, dms. ... lb.	.50	.55
Brazilian ... kilo	1.20	-
West Indian, bitter, NF X, cns., dms. ... lb.	6.50	-
Orange peel, bitter, Haitian bls. ... lb.	.38	-
Oregano, Greece, 30M ... lb.	1.01	1.03
Turkey ... lb.	.78	-
Mexico ... lb.	.60	.65
Origanum oil, Spanish, cns. ... kilo	35.00	-
Orris root, Florentine, bls. ... lb.	4.00	-
powd., bbls., bxs. ... lb.	4.60	5.00
Verona bls. ... lb.	3.00	-
powd., bbls., bxs. ... lb.	4.60	5.00
Ouricury wax, refd., pure, bgs. ... lb.	3.25	3.35
Oxalic acid, bgs., c.l., works ... lb.	.44	-
b-Oxynaphthoic acid dms. works, tech. ... lb.	2.55	-
Oxyquinoline base, pure, 1,000 lbs., frt. alld ... lb.	8.00	-
Oxyquinoline sulfate, 100 lbs. frt. alld. ... lb.	4.00	-

P

Palladium metal, works ... Troy-oz	113.00	-
Palm oil, (see Oils, Fats & Waxes Market Report)		
Palm oil acid, dbl-dist. dms. ... lb.	31½	-
tanks ... lb.	.30	-
s.d., dms. ... lb.	.42	45
tanks ... lb.	.35	-
Palm kernel oil, bulk, c.i.f., U.S. ports ... lb.	.11	.14
Palmarosa oil, Indian dms. ... kilo	36.00	-
Palmitic acid, 90%, tech., bags. ... lb.	.53	-
tanks ... lb.	.51	-
Papaverine hydrochloride, NF powd., imp. bulk ... kilo	56.00	-
Paprika, Hungarian, 100 AU bgs. .. lb.	.84	-
Spanish, 110 AU bgs. ... lb.	.87	-
Paraffin, fully-refd., 127-130 F., ASTM, tanks, refy ...	.29	.35
130-135 F., ASTM, tanks, refy.	.33½	.39
140-145 F., ASTM, tanks, refy.	.35	.41½
150-155 F., ASTM, tanks, refy.	.41½	.46
slack wax, 5% oil, tanks refy ...	.19	-
12% oil, tanks refy ...	.21	-
20% oil, tanks refy ...	.16	-
AMP temperatures are an arbitrary 3F higher than ASTP.		
Paraformaldehyde, 91%, flake, bgs. c.l., t.l., divd ... lb.	.29½	-
95%, powd., bgs., c.t., t.l. divd. lb.	.39½	-
Paraldehyde, tech., 98%, 55-gal. dms., t.l., divd. E. ... lb.	.76½	-
tanks, divd. E. ... lb.	.58½	-
Parathion, ethyl, dms., frt. alld. ... lb.	1.78	-
Parathion methyl (see Methyl parathion).		
Para toner red, bbls. ... lb.	3.75	-
chlorinated, (red 4) kgs. ... lb.	3.75	-
Patchouli oil, Indonesian, dms. ... kilo	20.00	22.00
Peach kernel oil, USP (see Apricot kernel oil).		
Peanut meal (see Oils, Fats & Waxes market report).		
Peanut oil (see Oils, Fats & Waxes market report).		
Pectin dom., NF, citrus, powd., 100-kilo lots divd. ... lb.	3.30	3.70
Pelargonic acid, nat., tanks, min. frt. alld ... lb.	.70	-
syn., tanks, f.o.b. frt. alld. ... lb.	.70	-
Penicillin, potassium, non-sterile, 200-billion-unit lots, ... billion units	20.00	25.00
Penicillin, procaine, sterile 50-billion-unit lots, bulk ... billion units.	38.00	-
Pennyroyal oil, dms. ... lb.	5.90	-
Pentachlorophenol, 50-lb. bgs., t.l., f.o.b. Wichita, Kan. ... lb.	.55	-
Pentaerythritol, tech., bgs., c.l., f.o.b. frt. alld ... lb.	.71	.72
Pentaerythritol, di- and tri-isomers (see Dipentaerythritol and Tripentaerythritol).		
Pentaerythritol triacrylate, t.l. dms., f.o.b. works ... lb.	1.50	-
Pentobarbital, dms., 100 lbs. or more, frt. alld ... lb.	7.00	-
Pentobarbital-sodium, dms., 100 lbs. or more, divd ... lb.	14.00	-
Pentylene tetrazol, NF, dms., 200-kilo lots ... kilo	32.00	-
Pepper, black, Brazilian, bgs. ... lb.	1.90	-
Lampong, bgs. ... lb.	1.95	-
Malabar, bgs. ... lb.	1.90	-
Tellicherry, bgs. ... lb.	2.10	-
Pepper, red Chinese, Fukien rice bgs lb.	.85	-
Hainan, bgs. ... lb.	1.00	-
Liling, bgs. ... lb.	.76	-
Indian, S-4, bgs. ... lb.	.68	-
Pakistan, bundkuts, bgs. ... lb.	.43	-
Pepper, white, Muntok, bgs. ... lb.	2.40	-
Peppermint leaves, imp., dms. ... lb.	2.65	-
Peppermint oil, Madras ... lb.	14.00	-
Midwest ... lb.	6.00	-
Willamette ... lb.	[illegible]	-
Yakima ... lb.	8.00	-
syn. dms. f.o.b. works ... lb.	[illegible]	[illegible]

CHEMICAL PRICES

WEEK ENDING AUGUST 1, 1986

Perchloroethylene, dry cleaning grade, distr., tanks, dlvd. lb.	.28½	-
Indust., grade, consumers, tanks, dlvd. lb.	.31	-
Perf acid. dms. lb.	2.55	-
Permanent red 2B, (red 48), calcium salts, dms., frt. alld. lb.	5.25	-
barium salts, same basis lb.	5.25	-
Peru balsam, f.o.b. lb.	3.30	-
Petitgrain oil, Paraguay lb.	5.75	6.25
Petrolatum, USP, snow white, dms., c.l., refy lb.	.375	-
tanks, refy lb.	.310	-
USP, soft white, dms., c.L. refy lb.	.375	-
tanks, refy lb.	.310	-
USP, lily white, dms., c.l., refy lb.	.370	-
Petrolatum, USP, Lily white, tanks, refy lb.	.305	-
USP, cream, dms., c.L., refy lb.	.365	-
tanks, refy lb.	.30	-
USP, soft yellow, dms., c.l., refy lb.	.350	-
tanks, refy lb.	.285	-
USP, amber, dms., c.l., refy lb.	.345	-
tanks, refy lb.	.280	-
Petroleum pitch (see Asphalt, petroleum).		
Petroleum sulfonate, 60-62%, sulfonic cont., HMW, bulk, works lb.	.48¼	.49
MMW, same basis lb.	.49	-
LMW, same basis lb.	.49	.49¼
Prices for 51% sulfonic content 2c per lb. lower on corresponding molecular wts.		
Phenacetin USP, powd., 200-lb. dms., 1,000-lb. lots, dlvd. lb.	2.20	-
100-lb. dms., 1,000-lb. lots, dlvd. lb.	2.22	2.45
p-Phenetidine, dms., c.l., f.o.b. lb.	2.00	-
Phenobarbital, USP, dms., 500-kilo lots., f.o.b. works kilo	19.60	
Phenobarbital-sodium, NF, 500-kilo lots, f.o.b. works kilo	27.00	-
Phenol, syn. tanks, frt. equald. lb.	.25	.29
p-Phenolsulfonic acid, 65% sol'n., dms., c.l., fob works lb.	.64	-
tanks, same basis lb.	.58	-
Phenothiazine, indust. grade, 50-lb. bags, c.l., f.o.b. works lb.	2.33	-
purif. grade, same basis lb.	2.69	-
Phenyl acetate, dms., 100-lb. lots, works lb.	1.04	-
Phenylacetic acid, pure cryst., 25-lb. cns lb.	4.50	-
dl-Phenylalanine, dms., 25-kilo lots kilo.	84.00	-
1-Phenyl-3-carbethoxy pyrazolone-5, dms. 200-lb. lots, dlvd. E. lb.	3.45	-
m-Phenylenediamine, cast, dms., c.l., t.l., f.o.b.works lb.	2.07	-
o-Phenylenediamine, flaked, dms., t.l., f.o.b. works lb.	3.25	-
p-Phenylenediamine, flaked, dms., f.o.b. works lb.	4.00	-
Phenylephrine hydrochloride, USP 100-kilo lots or more kilo.	175.00	185.00
Phenylethyl acetate, dms lb.	3.35	-
2-Phenylethyl alcohol, NF, dms lb.	2.65	3.40
b-Phenylethylamine, dms., 30,000 lbs. or more, frt. alld lb.	1.50	-
Phenylethylphenyl acetate, 25-lb. cns lb.	5.50	6.90
Phenylglyconic acid (see Mandelic acid).		
Phenylhydrazine, 99% min., dms lb.	3.50	-
1-Phenyl-3-methyl-5-pyrazolone, dms., 250-lb. lots dlvd. E. lb.	1.80	-
o-Phenylphenol, dms., t.l., works lb.	1.35	2.00
p-Phenylphenol, bgs., t.l., 40,000 lbs. or more, works lb.	1.85	-
Phenylpropanolamine hydrochloride, 100-kilo dm kilo	24.00	28.00
Phenylsalicylate, purif. cryst., dms., E lb.	2.75	-
tech., cryst., E lb.	2.25	-
flake, E lb.	2.35	-
Phloxine toner (red 90), dms., frt. alld lb.	1.95	2.05
Phosgene, 1-ton ret. cyls., 5 to 9-cyl. quantities, works lb.	.55	.67
Phosphate rock, Fla., land pebble, run of mine washed, 66-68% b.p.l. bulk c.l. mines ton	23.15	-
vessel, Tampa, same basis ton	28.00	-
Phosphoric acid, com'l, and tech. grades, 75% tanks, works 100 lbs.	29.00	-
80% tanks, works 100 lbs.	31.00	-
85%. N.F. tanks, f.o.b. freight equald 100 lbs.	33.50	-
Food grade prices $2.00 above tech. grade.		
Phosphoric acid, agricultural grade, 52-54% a.p.a., tanks, works unit-ton	3.10	-
super, min. 70% a.p.a., same basis unit-ton.	3.45	-
Phosphorus, white (yellow) solid dms., c.l., works, frt. equald lb.	1.00	-
tanks, works, f.o.b. works lb.	.91	-
Phosphorus oxychloride, tanks, frt. equald lb.	.40	-
Phosphorus pentasulfide, powd., dms., c.l., works 100 lbs.	50.00	-
tote bins, sellers 100 lbs.	45.00	-
Phosphorus pentoxide, dms., t.l., works lb.	.82	-
Phosphorus sesquisulfide, dms., cvs., c.l., works lb.	.36	-
Phosphorus trichloride, dms., c.l., works lb.	.40	-
tanks, works lb.	.35	-
Phthalic anhydride, flake, c.l., t.l., dms., frt. equald lb.	.30	.335
molten, tanks, same basis lb.	.27	.305
Prices 1-1½c. per lb. higher on the West Coast		
Phthalimide, flake, works lb.	.85	-
Phthalocyanine blue toner, red shade, bbls., frt. alld. E. of Rockies lb.	8.10	9.50
green shade, same basis lb.	6.40	8.50
resinated, bbls., same basis lb.	6.20	8.75

Phthalocyanine blue toner, water dispersable, bbls., same basis lb.	7.05	7.75
Phthalocyanine green toner, all grades, bbls., frt. alld. E. of Rockies lb.	8.10	10.10
Phthalocyanine green toner, resinated, bbls., same basis lb.	7.45	9.20
Phthalylsulfacetamide, dms., 500-kilo lots kilo.	6.61	-
Picolines, refd, mixed, bulk kilo	2.81	-
Picric acid, pure paste, 25-lb. ctns., c.l., dry basis, f.o.b. Charlotte, N.C. lb.	6.00	-
tech., paste, 25-lb. ctns., t.l., dry basis, f.o.b. Charlotte, N.C. lb.	5.00	-
Pigment green B, kgs lb.	2.20	-
Pilocarpine hydrochloride, USP, dms kilo.	1,500.00	2,000.00
Pimento see Allspice		
Pimento leaf oil, dms. lb.	14.50	-
Pine oil, 80% min. alcohol content, bulk, f.o.b. works 100 lbs	47.00	53.00
dms., c.l., t.l., same basis 100 lbs	51.00	54.00
a-Pinene, perfume grade kilo	1.62	-
tech. grade lb.	.19	.23
b-Pinene, perfumery grade. tanks. kilo	2.30	-
tech. grade. tanks lb.	.35	.40
Piperazine, anhyd., dms., t.l., frt. alld. E lb.	1.80	-
Piperazine citrate, 36%, dms., 1,100-lb. lots, frt. alld lb.	2.25	2.35
Piperazine dihydrochloride, 53%, dms., t.l., frt. alld lb.	2.00	-
Piperazine hexahydrate, 44%, dms., 1,100-lb. lots, frt. alld lb.	1.60	-
Piperazine phosphate, 42%, dms., t.l., frt. alld lb.	1.80	-
Piperidine dist. 98% min., dms., c.l., t.l., works kilo.	6.92	-
Piperonyl butoxide dms, dlvd. E. lb.	5.00	-
Platinum, metal, works Troy oz.	464.00	-
Polycarbonate resin, pellets, nat., t.l., frt. alld lb.	1.84	1.86
Polyester resin, unsaturated, g.p., orthophthalic, bulk, tankcars, frt. alld lb.	.51	.53
isophthalic, same basis lb.	.56	.62
Polyethylene resin, high-density, blow molding, g.p., hopper cars, frt. alld lb.	.43	.46
injection molding. g.p., hopper cars, frt. alld lb.	.43	.46
extrusion, g.p., hopper cars, same basis lb.	.47	.48
wire and cable, nat., hopper cars, same basis lb.	.45	.49
wire and cable, black, same basis lb.	.55½	.57
Polyethylene resin, low-density, film liner, hopper cars, frt alld lb.	.36	-
clarity film, hopper cars, frt., alld lb.	.37	-
pallet shrink film, hopper cars, same basis lb.	.35	-
extrusion coating, hopper cars, same basis lb.	.38	.42
g.p., hopper cars, same basis lb.	.38	.42
Polyethylene linear low-density g.p. resin	.36	.40
blown film resin	.40	.43½
cast film resin	.40	.45
Polyethylene resin, low-density injection molding, g.p., hopper cars, same basis lb.	.45	.48
line wire, CATV, power cable lb.	.847	-
wire and cable thermoplastic high-voltage, natural color, same basis lb.	.70	.74½
wire and cable, XLPE low voltage, 14% carbon black, same basis lb.	.67½	.72½
wire and cable jacketing, black lb.	.587	.667
Polymyxin sulfate, USP, bulk, 50-billion units min million units	.52	-
Polyoxyethylene sorbitan monostearate, dms., 20,000-lb. lots, works lb.	.73	-
Polyoxyethylene sorbitan tristearate, dms., 20,000-lb. lots, works lb.	.73	-
Polypropylene resin, homopolymer, g.p., nat., t.l., frt. alld lb.	.45	.48
copolymer, med. impact, nat., same basis lb.	.50	.55
high impact, same basis lb.	.53	.60
Colored material 8c. per lb. higher for each grade.		
Polystyrene resin, cryst., nat., hopper cars, frt. alld lb.	.46	-
impact, nat., hopper cars, same basis lb.	.51	-
high heat, high impact, nat., hopper cars, same basis lb.	.52	-
expandable beads (EPS), pkging grade, 1,000-lb. lots lb.	.69	-
modified, same basis lb.	.73	-
Polyvinyl alcohol, fully hydrolyzed, medium viscosity, bgs., t.l., dlvd lb.	1.00	1.05
partially hydrolyzed, medium viscosity, bgs., t.l., dlvd lb.	1.05	-
Polyvinyl chloride resin, g.p., homopolymer. dispersion, bgs., t.l., dlvd lb.	.50	-
g.p. suspension, bulk, same basis lb.	.36	-
pipe grade, bulk, same basis lb.	.47	-
film grade, bulk, same basis lb.	.37	.47
Polyvinyl chloride, g.p. copolymer dispersion, same basis lb.	.58	.61
g.p. copolymer suspension, same basis lb.	.45	.49
Poppyseed, Dutch, bgs lb.	.40	-
Turkey, bgs lb.	.31	-
Potash agricultural (see Potassium muriate).		
Potash, caustic, liq., 45% basis, tanks, works 100 lbs.	13.00	-
West Coast, 50% basis, tanks, ex terminal 100 lbs.	18.06	-
reg. flake, 88-92%, 400-lb. dms., c.l., works 100 lbs.	42.35	-
Potassium acetate, NF, gran., dms., t.l. works E lb.	.90	1.31
Potassium bicarbonate, tech., gran., bgs., c.l., works lb.	.31½	-
Potassium bicarbonate, USP, gran., dms., t.l lb.	.72	-
Potassium bichromate, gran, 400-lb. dms., c.l., t.l., works lb.	.48	-

Potassium bifluoride, tech., dms., t.l. works., frt. equald lb.	.45	.49
Potassium bitartrate, NF, gran., powd., bgs lb.	.90	1.20
Potassium borohydride, powd. dms., 100-1,000 lbs., works lb.	18.00	20.00
Potassium bromate, gran., powd., 200-lb. dms., c.l., f.o.b. works lb.	1.06	-
Potassium bromide, NF., gran., dms., c.l. f.o.b. works lb.	1.12	-
Potassium carbonate, liq., 47% K_2CO_3, tanks, t.w., works 100 lbs.	15.40	-
dms., c.l, t.l., works 100 lbs.	20.65	-
calcined, 99-100% K_2CO_3, hopper cars or trucks, works 100 lbs.	32.50	-
bgs., c.l., t.l., works 100 lbs.	38.40	-
Potassium carbonate, hydrated, 83-85% K_2CO_3, dms., c.l., t.l., works 100 lbs.	34.90	-
bgs., c.l., t.l., works 100 lbs.	33.70	-
Potassium carbonate, gran., purif., 400-lb. dms., 5-dm. lots lb.	.40	.46
Potassium chlorate, cryst., dms., c.l., works lb.	.14½	-
powd., dms., c.l., works lb.	.30	-
purif., gran., 325-lb. dms., f.o.b. shipping point lb.	.40	-
Potassium chloride, chemical grade, 99.95% KCl, bulk, c.l., f.o.b works ton	105.00	-
USP cryst. dms lb.	1.12	-
USP gran., dms lb.	.87	-
USP powd., dms lb.	.67	-
Potassium chloride, agricultural (see Potassium muriate).		
Potassium chromate, purif., cryst., dms., works lb.	.57	-
Potassium citrate, NF, gran., 200-lb. dms., frt. alld lb.	.93½	-
Potassium cyanide, dms., 20,000-lb. lots or more, f.o.b. works lb.	1.32	-
Potassium dichromate (see Potassium bichromate).		
Potassium fluoborate, tech., dms., c.l., t.l., works, frt. equald lb.	1.40	1.42
Potassium fluoride, anhyd., dms., t.l lb.	1.68	-
Potassium gluconate, dms., t.l., f.o.b. works lb.	1.45	-
Price W. of Denver 4c. per lb. higher.		
Potassium guaiacolsulfonate, 300-lb. dms., 600 lbs. or more frt. equald lb.	2.10	-
Potassium hydroxide, tech. (see Potash, caustic).		
Potassium hydroxide, USP, pellets, 100-lb. dms., c.l., t.l., works, frt. equald lb.	1.29	1.31
Potassium iodide, USP, gran., cryst., dms., 1,000-lb. lots dlvd lb.	10.72	12.39
ACS grade truckload lb.	11.32	13.55
Potassium-magnesium sulfate, std., bgs., works ton	59.00	-
basis 40% K_2SO_4 and 55% $MgSO_4$ bulk, works ton	67.00	-
Potassium metabisulfate, gran., dms. t.l lb.	.44	-
Potassium muriate, 60-62.4% min. K_2O, std., bulk, c.l., frt. equald., f.o.b. Sask., Canada ton	44.00	46.00
soluble, fine std., f.o.b. Sask ton	46.00	47.00
coarse, f.o.b. Sask ton	49.00	50.00
gran., f.o.b. Sask ton	50.50	51.50
Potassium nitrate. fert. grade, std., 50-ton c.l., dlvd. SE ton	267.00	274.00
prilled ton	277.00	284.00
tech., gran., bgs., c.l., min. 50 tons, dlvd ton	470.00	-
Potassium oxalate, neutral, tech., fine gran., powd., 300-lb. dm., frt. equald lb.	2.54	-
Potassium pentaborate, gran., bgs., c.l., works lb.	1.01	-
dms., same basis lb.	1.06	-
Potassium pentaborate powder 15c. per lb. higher.		
Potassium perchlorate, dms. c.l., works lb.	.78	-
Potassium permanganate, free flowing, bulk, hopper trucks, works lb.	1.09	-
50-kg. dms., same basis lb.	1.20	-
150-kg. dms., same basis lb.	1.17	-
Potassium permanganate, USP, 50-lb. kgs., works, c.l., t.l lb.	1.38	-
Potassium persulfate, 225-lb. dms., 24,000 lbs. or more, f.o.b. plant cwt.	78.80	-
c/l same basis cwt.	72.50	-
Potassium pyrophosphate tetrabasic, bgs., c.l., t.l., works, E., frt. equald 100 lbs.	43.75	47.25
bulk, same basis 100 lbs.	46.00	49.50
Potassium salicylate, USP, gran., 200-lb. dms., 2,000 lbs. or more, works, frt. alld lb.	1.52	-
USP, powd., 300-lb. dms., 2,000 lbs. or more, same basis lb.	1.42	-
Potassium silicate, soln., 29.8-30.2 Be., 2.5 ratio, t.c., t.t., works 100 lbs.	12.40	14.25
dms., c.l., t.l., works 100 lbs.	16.40	-
40-40.5 Be., 2.1 ratio, t.c., t.t., works 100 lbs.	16.40	18.85
Potassium silicate, 40-40.5 Be., 2.1 ratio, dms., c.l., t.l., works 100 lbs.	20.40	-
electronics grade, 30-30.4 Be., 2.1-2.2 ratio, t.c., t.t., works 100 lbs.	17.10	19.65
Potassium silicate, dms., c.l., t.l., works 100 lbs.	21.10	-
solid or glass, 2.15 ratio, dms., c.l., t.l., works 100 lbs.	35.00	-
"Ratio" indicates percentage by weight of SiO_2 divided by percentage by weight of K_2O.		
Potassium silicofluoride, bgs., c.l., t.l., frt. equald lb.	.11½	.15
Potassium-sodium tartrate, NF, gran. or powd., dms lb.	.80	1.20
Potassium sorbate, t.l. dms., dlvd. lb.	2.20	3.10
Potassium stannate, dms., frt. alld. lb.	N.A.	-
Potassium sulfate, agricultural grade, min. 50% K_2O std., bulk, c.l., f.o.b. works ton	160.00	160.00
Potassium sulfate, gran., purif. 400-lb. dm lb.	.86	-

Potassium tetraborate, gran., bgs., c.l. works lb.	1.10	-
dms., same basis lb.	1.15	-
Potassium tetraborate powder 15c. per ton higher		
Potassium thiocyanate, USP, cryst., 225-lb dms., 5-dm lots lb.	4.01	-
tech., cryst., dms., t.l lb.	.62	-
Potassium titanate, ctns., c.l., works lb.	.71¾	-
Potassium-titanium fluoride, tech., dms., t.l., works, frt. equald lb.	1.24	1.59
Potassium-zirconium fluoride, tech., dms., t.l. works, frt. equald lb.	.78	-
Prednisone USP dms., 5 kilos or more gram	1.03	-
Prednisolone acetate, USP, dms., 5 kilos or more gram	1.12	-
Prednisolone, anhyd., USP, dms., 5 kilos or more gram	1.12	-
Procaine hydrochloride, USP, antibiotic grade, dms., 2,000-lb. lots, frt. alld lb.	4.95	5.75
Procaine hydrochloride, USP, ampule grade, dms., 1,000-lb lots, frt alld lb.	4.95	5.60
Propionaldehyde, tanks, f.o.b. lb	.35½	-
Propionic acid, syn., pure, tanks, dlvd E lb.	.33	.34½
n-Propyl acetate, tanks, dlvd lb	.53½	-
n-Propyl alcohol, tanks, dlvd lb.	.42	.44
n-Propyl gallate dms., 100 to 2,000-lb. lots, dlvd lb.	11.50	-
n-Propyl-p-hydroxybenzoate, USP, 500 kilos kilo	10.80	-
tech., 500 kilos, f.o.b kilo	10.38	-
Propyl paraben (see n-Propyl-p-hydroxybenzoate)		
Propyl thiouracil, dms., 50-kilo lots or more kilo.	55.00	-
n-Propylamine, dms., c.l., dlvd lb.	.75	.80
Propylene, polymer grade, f.o.b. Tex and La. Gulf Coast points lb	.17⅛	-
chemical grade same basis lb.	.15¾	.16
Propylene glycol, indust., tanks, f.o.b. lb	.40	.41
USP, tanks, f.o.b. E lb	.43	.44
Propylene glycol monomethyl ether, tanks, dlvd. E lb	.49	-
Propylene oxide, tanks, f.o.b. works, frt. equald lb	.47½	-
Psyllium seed, USP powd bgs lb.	1.50	1.75
Pumice, dom., fine, 4F-0, bgs., ton lots ton	270.00	-
medium, 0½-1½, bgs., ton lots ton	300.00	-
coarse, 2-extra coarse, bgs., ton lots ton	300.00	-
Pumice, imp., Italian, fines, bgs., ton lots f.o.b. East Coast ton	280.00	-
medium, bgs., ton lots, f.o.b. East Coast ton	350.00	-
coarse, bgs., ton lots f.o.b. East Coast ton	300.00	-
Pyrazolone red (red 38), dms., works lb.	5.25	5.35
Pyrethrum flowers, fine grd. 0.9% pyrethrins, ton lots, frt. alld. lb	1.91	-
Pyrethrum, purif., 20% pyrethrins, dms., works lb	37.50	37.75
Pyridine, refd., 2-deg., c.l. works dms kilo	5.90	-
tanks kilo	5.70	-
Pyridoxine hydrochloride, USP, 100 kilos or more, dlvd kilo.	29.00	33.00
Pyrites, Canadian 48-50% S. mines long ton	4.50	5.00
Pyrogallic acid (see Pyrogallol)		
Pyrogallol, 100-lb. dms., 1,000-lb., lots, dlvd lb.	13.70	15.25

Q

Quassia chips lb.	.57	-
Quinacridone maroon, dms., frt. alld lb.	20.75	24.25
red, dms., frt. alld lb.	17.75	19.00
scarlet, dms., frt. alld lb.	21.75	24.25
violet, dms., frt. alld lb.	17.75	19.00
Quince seed, bgs lb.	2.00	2.75
Quinidine sulfate, USP, 1,000-oz. dms., 2,000 oz. or more oz.	4.20	4.25
Quinine hydrochloride, NF, 1,000-oz. dms., 2,000 oz. or more oz.	2.45	2.50
Quinine sulfate, USP XVIII, 1,000-oz. dms., 2,000 oz. or more oz.	2.30	2.50
Quinoline, dms., t.l., frt. equald lb.	1.49	-
tanks, same basis lb.	1.43	-

R

R salt tech., 304 molecular wt. lb.	2.12	-
Racemethionine, USP, 50-250 kilos kilo	6.80	-
250-500 kilos kilo	6.60	-
500 or more kilos kilo	6.50	-
feed grade, 99% min., c.l., t.l. lb.	1.07	-
Rapeseed oil, dms lb.	.58½	.62½
Rauwolfia serpentina root, powd. bls., dms kilo.	22.00	-
Red carmine. No. 40 (see Carmine No. 40)		
Red precipitate, (see Mercuric oxide, red).		
Reserpine, USP, cryst., bots gram	.40	-
Resorcinol, tech., bgs., t.l., works, dlvd kilo.	3.96	-
Resorcinol, USP, cryst., dms. 50 kilos or more, works kilo.	9.35	-
powd. dms., same basis kilo.	9.90	-
Resorcinol monoacetate, dms., 1,000 lbs. or more lb.	1.98	-
Rhodamine red toner, molybdated, PMA, dms., works lb.	9.25	-
tungstated, PTMA, dms., f.o.b. works lb.	11.60	14.00
Rhodinol, 25-lb. cns lb.	105.00	105.10
syn., dms lb.	15.26	[illegible]
Rhubarb root, India, whole, bgs lb.	.45	.48
powd., bgs lb.	.61	.70
Riboflavin, feed grade, 25 kilos, dlvd kilo.	34.60	-
Riboflavin, USP, 25 kilos, dlvd kilo.	43.00	45.00
Riboflavin 5-phosphate-sodium, 25-kilo lots kilo.	138.00	-

Rice bran oil, refined dms. t.l. lb.	1.25	-
Ricinoleic acid (see Castor oil acids, split).		
Rochelle salt (see Potassium-sodium tartrate).		
Roofing pitch (see Coal tar pitch, roofing.)		
Rose oil, nat., NF, Bulgarian, otto. bots kilo.	3850.00	3990.00
Turkish, otto., bots kilo.	2250.00	3000.00
Rosemary oil, NF, Spanish, dms. kilo	9.00	14.50
Tunisian, dms kilo	8.75	15.00
Rotenone resin, 30-45%, 100-lb. dms. works unit-lb.	.21	.23

S

Saccharin NF, gran., soluble, dms. 1,000-lb. lots, frt. alld lb.	2.60	2.75
Saccharin NF, powd., soluble, dms., less than 20,000-lb. lots, frt. alld. lb.	3.75	-
Safflower oil, non-break. tanks, N.Y. lb.	.47	.50
edible dms., N.Y., dlvd lb.	.93	.97
Sage leaves, Dalmatian, No. 1, bgs. lb.	1.75	-
Albanian, bgs lb.	1.30	-
Israeli lb.	.80	-
Sage oil, Clary, French, bots. kilo	90.00	-
Dalmatian, cns lb.	9.50	10.00
Spanish, cns kilo	12.50	-
Salicylaldehyde, tanks, f.o.b. lb.	3.60	-
Salicylamide, NF, gran., powd., dms., 2,000-lb. lots, one ship lb.	1.07	1.10
Salicylic acid, tech., dms., c.l., t.l., works lb.	1.23	1.41
USP, cryst., dms., 1,000 lbs. or more lb.	1.33	1.63
USP, powd., dms., 1,000 lbs. or more lb.	1.68	-
Salol (see Phenylsalicylate).		
Salt, evaporated, common, 80-lb. bgs., c.l., t.l., North, works. 80 lbs.	4.02	-
bulk, same basis ton	60.00	61.20
chemical grade, same basis 80 lbs.	4.30	-
Salt, rock, medium, coarse, same basis 80 lbs.	2.70	-
bulk, same basis ton	18.00	25.00
Saltcake, dom., bulk, works, 100% Na_2SO_4 basis, f.o.b. works E ton	85.00	98.00
same basis W ton	90.00	99.00
Sandalwood oil, E. Indian kilo	145.00	-
Indonesia kilo	102.00	-
Sarcosine, tech., tanks, works, frt. equald lb.	.50	-
Schaeffer's salt, paste, dms., 100% basis, works lb.	2.59	-
Scopolamine hydrobromide, USP, 100-oz. lots bots oz.	36.00	46.50
Sebacic acid, CP, bgs., c.l., works lb	2.14	-
purif., bgs., c.l., works lb.	2.13	-
Seidlitz mixture, dms., 5,000-lb. lots. lb.	.30½	-
Selenium, powd., 99.99% Se, dms., dlvd lb.	13.00	-
coml., 99.5% Se, same basis lb.	10.00	15.00
Senna leaves, Alexandria, whole and half, bls lb.	.75	.80
Tinnevelly, No. 1, bls lb.	.70	.71
powd., bbls., bxs lb.	.90	1.10
Sesame oil, USP, dms., l.c.l lb.	1.00	1.20
Sesame seed, Central American, hulled, bgs lb.	.50	.51
Sienna pigment, burnt, paper bgs., l.c.l., works lb.	.19½	.28½
raw, paper bgs., l.c.l., works lb.	.18¼	.23¾
Silica, amorph. dry-grd., bgs., c.l., works 93%, 200 mesh ton	31.00	32.50
98%, 200 mesh ton	32.00	33.50
93%, 97%, 325 mesh ton	34.50	35.50
98.5%, 325 mesh ton	37.00	-
99.5%, 325 mesh ton	51.50	54.50
Silica, dry-grd., bgs., c.l., works, 99.9%, 400 mesh, micronized ton	72.00	75.50
99% under 15 microns, micronized ton	79.50	82.50
99% under 10 microns, micronized ton	104.00	105.00
Silica, hard-quartz, 99.5% SiO_2, 325 mesh, bgs., c.l., works ton	37.00	-
140 mesh, bgs., c.l., works ton	34.75	-
Silicon tetrachloride, tech., dms., c.l., works lb.	.60	-
tanks, works lb.	.36	-
Silver bullion, ingots, cs., Troy oz.	5.22	-
Silver cyanide, 80% Ag 500-oz. lots oz.	4.185	-
Silver nitrate, ACS, 58.2 Troy oz. AG/100 avoir. oz. $AgNO_3$ oz.	3.1275	-
Soapbark, crushed, bls lb.	1.00	-
powd., bls lb.	1.35	1.65
Soda ash, dense, 58%, 100-lb., paper bgs. c.l., works, f.o.b. ton	120.00	-
bulk, c.l., same basis ton	83.00	-
light 58%, 100-lb., paper bgs., c.l., same basis ton	150.00	-
bulk, c.l., same basis ton	123.00	-
Soda, caustic, liq., 50%, sellers tanks, Gulf Coast works, f.o.b., frt. equal., 76% Na_2O ton.	175.00	195.00
73%, same basis ton.	205.00	225.00
flake, 76%, 400-lb. dms, c.l, works ton.	500.00	570.00
solid, 76%, 700-lb. dms. c.l, works ton.	520.00	570.00
gran., 75%, 450-lb. dms. c.l, works ton.	520.00	-
beads, 76%, 400-lb. dms., c.l., works 100 lbs.	27.50	28.50
Prices for liq. rayon-type, $15 ton higher. Prices in West 70c. higher for solid, and $20–$30 ton higher for gran. and beads.		
Soda, sal., conc., bgs., c.l. works 100 lbs.	3.35	3.85
Sodium acetate, anhyd., bgs., c.l., f.o.b. works lb.	.54	-
Sodium acetate, USP, 60%, gran. 100-lb. dms., c.l., works lb.	.57	-
Sodium alginate, NF, white powd., dom., 300 lbs. or more lb.	6.00	6.75
Sodium p-aminosalicylate, dms., 100-lb. lots or more, f.o.b. works lb.	4.73	-
Sodium antimonate, bgs., c.l., dlvd. E. lb.	1.49	1.50
Sodium ascorbate, USP, dms., 100 kilos kilo.	9.30	10.50
Sodium benzoate, tech., bgs., c.l., t.l., frt. alld lb.	.70½	-
Sodium benzoate, USP, 50-lb. bgs., c.l., t.l., frt. alld lb.	.63½	-
ton-lots, same basis lb.	.66½	-
100-lb. dms., c.l., t.l., same basis. lb.	.89	-
ton-lots, same basis lb.	.92	-

Sodium bicarbonate, USP, powd., reg. grade, bgs., c.l., t.l., works, frt. equald 100 lbs.	17.05	-
coarse, same basis 100 lbs.	18.05	-
fine, same basis 100 lbs.	17.20	-
gran., same basis 100 lbs.	17.85	-
gran., fine, same basis 100 lbs.	17.60	-
Sodium bichromate, gran., bgs. c.l., t.l., works, frt. equald lb.	.57	-
Sodium bifluoride, 400-lb. dms., c.l., frt. equald lb.	.78	-
100-lb. bgs., c.l., same basis lb.	.76	-
Sodium bisulfate, bulk, c.l., works ton	175.00	-
dms., c.l., 100 lbs.	13.00	-
Sodium bisulfite, anhyd. bgs., c.l., t.l., works, East 100 lbs.	28.50	-
works, West 100 lbs.	32.00	-
Sodium bisulfite, soln., 38%, bulk, 100% basis, works, East 100 lbs.	20.60	-
soln., 100%, bulk, works, West 100 lbs.	20.00	-
photographic grade, 43% soln., works 100 lbs.	21.90	-
Sodium borate NF, gran., bgs., c.l., works lb.	.51	-
powd., same basis lb.	.52	-
Sodium borohydride, powd., dms., 1000-5000 lbs. works lb.	19.88	21.90
Sodium borohydride, stabilized water soln., 12% $NaBH_4$, 100% basis, 3000 gal. tankwagon, works. lb.	17.45	-
Sodium bromide, 99%, gran., 400-lb. dms., f.o.b. works lb.	1.04	-
Sodium carbonate, decahydrate, bgs, c.l., t.l., works ton.	264.00	-
Sodium carbonate, cryst. monohydrate (see Soda, ash)		
Sodium carbonate, monohydrated, bgs., c.l., t.l., works ton	392.00	-
Sodium carboxymethyl cellulose (see CMC.)		
Sodium chlorate, bulk, t.c., t.t., f.o.b. works ton	420.00	440.00
Sodium chlorate, cryst., 450-lb. dms., c.l., works. E lb.	.27	-
Sodium chloride, tech. (see Salt.)		
Sodium chloride, USP, gran., bgs lb.	.29	-
Sodium chlorite, tech., dms., c.l., works lb.	1.17	1.27
Sodium chromate, anhyd., dms., c.l., t.l., works lb.	.87	-
Sodium chromate, tetrahydrate, bgs., c.l., t.l., works lb.	.64	-
Sodium citrate, gran., anhyd., 200-lb. dms., c.l., t.l., N.Y. lb.	1.95	-
Sodium citrate, USP, gran., dihydrate, 100-lb. bgs., t.l., f.o.b. shipping point lb.	.74½	-
Sodium cyanate, dms. 1,000-lb. lots, works lb.	.85	-
Sodium cyanide, briquettes or gran., 99% min., 200-lb dms. min., f.o.b works lb	.88	-
Sodium diacetate, anhyd., dms., c.l., works lb.	68	-
Sodium diacetate, FCC, 50-lb. bgs., t.l., dlvd. E of Rockies lb	.61	67
Sodium diacetate, tech., 50-lb. dms., c.l., works lb.	.52	-
Sodium erythorbate, powd., gran., t.l. or mixed t.l., f.o.b. shipping point lb.	2.60	2.85
Prices W. of Denver 2c. per pound higher.		
Sodium ferrocyanide, bgs. t.l., works lb.	.60	-
Sodium fluoborate, tech., gran., dms., t.l., works, frt. equald lb.	1.77	-
Sodium fluoride, white, 97%, 400-lb. dms., c.l., works, frt. equald. lb.	.6345	-
100 bgs., c.l., same basis lb.	.60	-
USP powd., 200-lb. dms., t.l., f.o.b. shipping point lb.	4.69	-
Sodium formate, bgs., c.l., works lb.	.20	-
Sodium gluconate, tech., 50-lb. bgs., 2,500 lbs. or more frt. alld. lb.	.60	-
Sodium hydride, oil dispersion, 60% NaH, 167-lb. dms., 10 dms., works lb.	1.86	-
Sodium hydrosulfide. (see Sodium sulfhydrate.)		
Sodium hydrosulfite, dms., c.l., t.l., f.o.b. shipping point E lb.	.84	-
Sodium hydroxide, USP, pellets, 100-lb. dms., c.l., t.l., works, frt. equald lb.	.95	.98
Sodium hydroxide, tech, (see Soda, caustic.)		
Sodium hypophosphite, EN grade, 300 lb. dms f.o.b. works lb.	1.425	1.50
110 lb. dms lb.	1.47	1.52
Sodium hyposulfite (see Sodium thiosulfate).		
Sodium iodide, USP, cryst., 300- to 500-lb. lots. dms. frt. equald lb.	14.72	-
Sodium lauryl sulfate, 30%, tanks, f.o.b. works lb.	.29	.32
Sodium lignin sulfonate, bgs., c.l., works 100 lbs.	25.50	-
Sodium metabisulfite (see Sodium bisulfite).		
Sodium metaborate, octahydrate, gran., bgs., c.l., works lb.	.38	-
tetrahydrate, gran, bgs, c.l., works lb.	.49	-
Sodium, metallic, 12-lb. bricks, dms., c.l. works lb.	.93	-
fused, dms. 24,000-lb. lots or more, works lb.	.87	-
tanks, works lb.	.70	.80
Sodium metaphosphate, tech. bgs., c.l., f.o.b. shipping pt. frt. equald 100 lbs.	61.50	-
food grade, bgs. c.l. f.o.b. frt. equald. 100 lbs.	68.25	-
Sodium metasilicate, anhyd., bgs., c.l works 100 lbs.	27.25	-
bulk, c.l., works 100 lbs.	25.30	-
pentahydrate, bgs., c.l., f.o.b. shipping point 100 lbs.	18.95	-
bulk, c.l. works 100 lbs.	17.20	-
Sodium molybdate, anhyd., dms. f.o.b. works, 100 lbs and over lb.	4.87	-
cryst., dms., t.l., same basis lb.	4.12	-
Sodium naphthionate, dms., c.l., t.l., f.o.b. works lb.	2.00	-
Sodium Nitrate, USP, bgs., c.l., f.o.b., frt. equald 100 lbs.	34.50	-
Sodium nitrate, dom., industrial, bgs., c.l., works ton	284.00	292.00
bulk, c.l., works ton	250.00	-
imp., coml., 100-lb. bgs., c.l., Atl., or Gulf whse ton	205.00	214.00
bulk, c.l., same basis ton	182.00	-
imp., agricultural, bulk, c.l., same basis ton	140.00	-
Sodium nitrite, USP, dms., c.l., works, frt. equald 100 lbs.	37.25	-

Sodium orthosilicate, tech., anhyd., bgs., c.l., works 100 lbs.	34.50	-
Sodium orthosilicate, tech., hydrated, flake, dms., c.l., works. 100 lbs.	27.45	-
bgs., c.l., works 100 lbs.	26.25	-
Sodium oxalate, 99%, bgs., t.l., works. lb.	.45	-
Sodium pentachlorophenate, beads c.l., 30,000-lb min lb.	.67	-
bgs lb.	.66	-
Sodium pentobarbital (see Pentobarbital-sodium).		
Sodium perborate, tetrahydrate, tech., bgs., c.l., t.l., works lb.	.32½	.36½
Sodium persulfate, 225-lb. dms., 24,000 lbs. or more, f.o.b. plant lb.	.63½	-
55-lb. bgs. same basis lb.	.62	-
Sodium phenobarbital (see Phenobarbital-Sodium).		
Sodium phenosulfonate, powd., dms., lb.	.76	-
Sodium phosphate, anhyd., dibasic tech., bgs., c.l., t.l., works, frt. equald 100 lbs.	54.50	-
food grade, same basis. 100 lbs.	57.50	-
Sodium phosphate, monobasic, tech., same basis 100 lbs.	55.75	-
food grade, same basis. 100 lbs.	59.75	-
tribasic, tech., same basis. 100 lbs.	52.25	52.75
food grade, same basis. 100 lbs.	63.25	-
chlorinated, same basis 100 lbs.	31.50	-
cryst., tech., same basis 100 lbs.	30.50	-
cryst., food grade, same basis 100 lbs.	35.50	-
USP, dried, powd., bgs., dms., works lb.	.19	.20½
Sodium picramate, tech., paste. 200-lb. dms., dry basis, dlvd. lb.	5.50	-
Sodium propionate, dms., 2,000 lbs. or more, f.o.b. frt. alld lb.	.54	-
Sodium pyrophosphate, acid, tech., bgs., c.l. works, frt. equald. 100 lbs.	58.25	-
food grade, non-leavening, bgs., c.l., works. frt. equald 100 lbs.	61.25	-
Sodium pyrophosphate, ferric, dms., c.l., t.l., works lb.	.3680	-
Sodium pyrophosphate, tetrabasic, anhyd., tech., bgs., c.l., t.l., works, frt. equald 100 lbs.	44.75	-
bulk, hopper cars, same basis 100 lbs.	42.60	-
food grade, bgs., c.l., t.l., same basis 100 lbs.	53.00	-
Sodium salicylate, USP, cryst., 200-lb. dms., 1,000-lb. lots or more, works, frt. equald lb.	3.00	-
USP, powd., 200-lb dms., 1,000-lb lots or more, same basis lb.	3.05	-
Sodium sesquicarbonate, bulk, c.l., t.l., works ton.	170.00	-
bgs. c.l., t.l. works 100 lbs	198.00	-
Sodium silicate, solid, or glass, 3.22-3.25 ratio, bulk, c.l., t.l., works 100 lbs	15.70	-
bgs., c.l., t.l. works 100 lbs	27.75	-
1.95-2.00 ratio, bulk, c.l., t.l. works 100 lbs	20.30	-
bgs., c.l., t.l., works 100 lbs.	22.15	-
soln., 37.0° solid, 3.22-3.25 ratio, bulk, c.l., t.l., frt. equald 100 lb	6.30	-
"Ratio" indicates percentage by weight of SiO_2 divided by percentage by weight of Na_2O.		
Sodium silicofluoride, bgs., c.l., t.l., works, frt. equald 100 lbs.	17.95	19.75
Sodium stannate, dms. wks. frt. alld. E. lb.	N.A.	-
Sodium sulfanilate, dms, works lb.	.22	-
Sodium sulfate, NF XII, powd., dms., 2,000-lb. lots lb.	.23½	-
tech., detergent, rayon-grade, c.l., works. Gulf ton	90.00	96.00
Sodium sulfate, West, bulk, c.l., works, frt. equald ton	90.00	101.00
bulk, c.l., East, same basis ton	113.00	114.00
Sodium sulfate, photo grade, 100-lb. bgs., c.l., works ton	47.00	53.00
Sodium sulfhydrate, flake, 70-72%, dms., c.l., works, frt. equald ton	500.00	-
liq., 44-46%, tanks, works, frt. equald ton	500.00	-
Sodium sulfide, flake, dms., c.l., works, E., frt. equald ton	470.00	-
bgs., same basis ton	410.00	-
Sodium sulfide, fused, dms., c.l., works, E., frt. equald ton	240.00	-
Sodium sulfite, anhyd., tech. 95-100% bgs, f.o.b. works 100 lbs.	23.76	-
Sodium sulfocyanide CP (see Sodium thiocyanate).		
Sodium tetraborate (see Borax).		
Sodium tetrasulfide, liq. 34%, dms., c.l., works., frt. equald ton	540.00	-
Sodium thiocyanate, purif., cryst., 250-lb. dms., 5 dms. or more f.o.b. works lb.	3.26	-
tech., anhyd. dms., 2,000 lbs. or more, works lb.	.97	-
Sodium thiosulfate, tech., photo-grade, anhyd., 100-lb. bgs., c.l., t.l., works, frt. equald 100 lbs.	45.50	-
cryst. pentahydrate, c.l., t.l., same basis 100 lbs.	28.50	-
Sodium titanate, dms., c.l., works lb.	.14¼	-
Sodium trichloroacetate, 95%, 50-lb. bgs., c.l., frt. alld, E lb.	.28	-
Sodium tripolyphosphate, tech., bgs., c.l., t.l., works, frt. equald 100 lbs.	39.75	-
bulk, hopper cars, same basis. 100 lbs.	37.50	-
food grade, bgs., c.l., t.l., same basis 100 lbs.	48.50	-
Sodium tungstate, tech. high moly., dms., 10,800 lbs. or more, frt. alld lb.	5.00	5.80
Folin grade dms., 10,800 lbs. or more, same basis lb.	8.00	-
Sodium-ammonium phosphate, purif., cryst., dms., works lb.	.52	-
Sodium-formaldehyde sulfoxylate, dms., t.l., f.o.b. works lb.	.91	-
Sodium-zirconyl sulfate, dms., 1,000-lb. lots or more, works lb.	.28	-
tech., dms., any quantity, works lb.	.16	-
Solvent naphtha, petroleum, straight aromatic, b.r. 320°-350°F, 55°F m.a.p., tanks:		
New Jersey gal.	1.52	-
Houston gal.	1.41	-
Illinois gal.	1.54	-
Solvent naphtha, petroleum, straight aromatic, b.r. 350°F-410°F, 60°F m.a.p., tanks:		
New Jersey gal.	1.30	1.35
Houston gal.	1.30	-
Illinois gal	1.30	1.35
Sorbic acid, t.l. dms., dlvd lb.	2.20	3.10

CHEMICAL PRICES

WEEK ENDING AUGUST 1, 1986

Sorbitan monostearate, dms., c.l., t.l., 30,000 lb. min., f.o.b. works lb.	.76	-
Sorbitan tristearate, c.l., t.l., 30,000 lb. min., f.o.b. works lb.	.80	-
Sorbitol, USP, reg. 70% aqueous, dms., c.l., f.o.b. shipping point lb.	.35	-
tanks, f.o.b. shipping point lb.	.30	-
gran., dms., c.l. t.l., works lb.	.70	.74
powd., dms., c.l., t.l., works lb.	.68	.72
Soybean meal (See Oils, Fats & Waxes market report.)		
Soybean oil (See Oils, Fats & Waxes market report.)		
Soybean oil acidulated, soapstock, 95% acid, tanks, New York lb.	.14	.16
Soybean oil, acid, dbl., dist., dms lb.	.48	.59
tanks lb.	.43	.44
s.d., dms lb.	.47	.58
tanks lb.	.38	.43
Spearmint leaves, imp., bls lb.	2.50	2.70
Spearmint oil, Far West, native lb.	14.00	15.00
Midwest, native lb.	12.00	-
Far West, Scotch lb.	15.00	15.50
Midwest, Scotch lb.	14.50	15.25
Spruce oil, dms lb.	8.00	-
St. John's bread, edible, bls lb.	.29	.30
zStannic chloride, anhyd., dms., works lb.	N.A.	-
Stannic oxide, dms., works lb.	N.A.	-
Stannous chloride, anhyd., dms. wks lb.	N.A.	-
Stannous fluoborate, liq., conc., dms., t.l., works, frt. equald lb.	2.50	-
Stannous oxide, dms., works lb.	N.A.	-
Stannous sulfate, dms., works lb.	N.A.	-
Stearic acid, double pressed, bulk lb.	.26	39
single-pressed, bulk lb.	28	375
triple-pressed, bulk lb	32	40
Stramonium leaves, bgs lb	15	20
Streptomycin sulfate, USP, bulk. kilo	47.00	-
Strontium carbonate, glass grd., bgs., t.l., works lb	37½	-
Strontium nitrate, 50-15 bgs., c.l., works 100 lbs.	51.50	-
Styrene monomer, 99.6% min., t.c., t.t., f.o.b. works lb	21	-
Styrene-acrylonitrile resin, nat., bulk, f.o.b. plant lb	77	-
cryst., bulk, same basis lb	77	81
clear, same basis lb	77	.81
Styrol acetate, dms lb	2.35	-
Succinic acid, purif., cryst., dms., t.l., frt. alld lb.	2.00	2.10
Succinic anhydride, dms., c.l., t.l., f.o.b. work lb.	1.71	-
Sucrose, refd., white, bgs., c.l., f.o.b. refy. E 100 lbs.	33.10	-
Sucrose acetate, isobutyrate, 90% dms., t.l., dlvd lb.	1.18	-
tanks, dlvd lb.	1.10	-
100%, dms., t.l., dlvd lb.	1.18	-
Sucrose octa-acetate, denaturing grade, 100-lb. dms., f.o.b. works kilo	12.50	13.50
Sulfabenzamide, dms., 500 kilos kilo.	39.50	-
Sulfabenzamide-sodium, dms., 500 kilos kilo.	25.00	-
Sulfacetamide, USP, dms., 500 kilos kilo.	20.00	23.50
Sulfadiazine, USP, powd. dms., 500 kilos kilo.	53.00	-
Sulfadiazine-sodium, USP, dms., 500 kilos kilo.	40.70	-
Sulfamerazine, USP, microcrystals, dms., 500 kilos kilo.	33.50	-
USP, powd., dms., 500 kilos kilo.	32.00	-
Sulfamethazine-sodium, USP, powd. dms., 50 kilos kilo.	13.00	-
Sulfamethazine, powder, dms., 500 kilos kilo.	9.50	10.00
Sulfamic acid, cryst., bgs., c.l., t.l., works 100 lbs.	38.00	41.00
Sulfamic acid, gran., dms., c.l., t.l., works lb.	.36	-
Sulfanilamide, NF, reg. 1,000-lb. dms., frt. equald lb.	2.00	-
Sulfanilic acid, tech., bgs., t.l., f.o.b. works lb.	.67½	-
Sulfaquinoxaline, veterinary, grade, dms lb.	8.00	-
Sulfur, crude, bright, molten, dom., f.o.b. vessels, Gulfports long-ton	150.00	-
f.o.b. La. refy long-ton	125.50	-
recovered, dlvd., Houston long-ton	125.50	-
ex terminal, Rotterdam long ton.	135.00	-
f.o.b. tanks, Alberta, Canada, for US delivery long-ton	102.00	-
dark, ex-Tampa, Fla. long-ton	167.50	-
Sulfur, crude, 99.5% min. purity, coml. flour, 50-lb. bgs., c.l., mines basis 100 lbs.	13.60	-
lump, same basis 100 lbs.	13.60	-
Sulfur, refd., 99.5% min. purity, rolls 50-lb. bags, c.l., mines basis 100 lbs.	17.50	-
flour, light, 50-lb. bgs., same basis 100 lbs.	20.00	-
Sulfur, refd., sublimed, NF, 99.85% min. purity, 50-lb. bgs., c.l., mines basis 100 lbs.	26.00	-
Sulfur, rubbermakers, 99.5% min. purity, coml., reg., 50-lb. bgs., c.l., mines basis 100 lbs.	14.60	-
fine, 98% min. passing through 325 mesh, same basis 100 lbs.	16.10	-
Sulfur dichloride, dms., c.l., works, frt. equald lb.	.24	-
tanks, same basis lb.	.17¼	-
Sulfur dioxide, liq., coml, multi-unit cars, dms., f.o.b. works ton	275.00	-
tanks, works ton	210.00	220.00
Sulfur monochloride, dms., c.l., works, frt. equald lb.	.22½	-
tanks, same basis lb.	.16¼	-

CHEMICAL PRICES

WEEK ENDING AUGUST 1, 1986

Sulfuric acid, virgin 100% tanks, works,		
East Coast .... ton	71.75	95.90
Gulf Coast .... ton	75.00	86.40
Midwest .... ton	80.25	–
Southeast .... ton	68.15	–
West Coast .... ton	85.00	–

NOTE: For prices on 60 and 66 Be., multiply by .7767 and .9319, respectively. For price of 20% fuming oleum, as is, add $3-$4 to above prices and multiply by 1.045.

Sulfuric acid, smelter, 100% tanks, works,		
Gulf Coast .... ton	48.00	52.00
New Mexico .... ton	20.00	25.00
Southeast .... ton	63.15	–
93%, tanks, divd., Northwest ton	60.00	65.00
Sunflowerseed oil, crude, f.o.b. Minneapolis .... lb.	.18	.20
Superphosphate, triple, 46% or more, a.p.a., run-of-pile, bulk, c.l., Fla. .... unit-ton	2.75	3.05
bulk, gran., c.l., Fla. .... ton	160.00	165.00

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Talc, dom., grd. New York bgs., c.l., works .... ton	84.00	–
99.5%, 325 mesh, bgs., c.l., works .... ton	84.00	90.00
Talc, dom., 99.5%, 400 mesh, micronized, bgs., c.l., works .. ton	167.00	238.00
625 mesh, micronized, bgs., c.l., works .... ton	200.00	–
dom., ord., Calif. grd., bgs., c.l., works .... ton	90.00	–
ord., Vermont, off-color grd., bgs., c.l., works .... ton	136.00	–
imp., Canadian, grd., bgs., c.l., works .... ton	70.00	84.00
Tall oil, crude, Southeast, tanks, works, frt. equald. .... ton	135.00	140.00
Tall oil, refd., acid, same basis ..... lb.	.31	–
dist., tanks, same basis .... lb.	.19	.23
Tall oil acids, 2% or more rosin, tanks, works, frt. equald. .... lb.	.20½	.23½
less than 2% rosin acid .... lb.	.22	.27
Tallow (see Oils, Fats & Waxes market report.)		
Tallow, fatty acids, tech., non-ret. dms., c.l., divd. .... lb.	.37	.40
tanks, divd. .... lb.	.29	.45
hydrogenated, tech., flake, bgs., c.l., divd. .... lb.	.37	.33
tanks, divd. .... lb.	.35	.42
Tangerine oil, Fla., dms. f.o.b. ...... lb.	10.50	11.00
Italian, dms. .... kilo	35.00	–
Tankage, animal feeding, 9-11%, NH_3, New York, bulk .... unit-ton	5.50	–
Tankage, fert. grade (see Nitrogenous process tankage).		
Tannic acid, NF, fluffy, bbls., 1,000-lb. lots .... lb.	6.09	–
tech., powd., dms. .... lb.	4.62	–
Tar acid oil, 15-18% t.l., dms., f.o.b works .... gal.	1.40	–
25-28%, t.l., dms., f.o.b. works . gal.	1.59	–
50-53%, t.l., dms., f.o.b. works . gal.	1.87	–
Tartaric acid, NF, bgs., ... lb.	1.20	1.50
Tellurium, metallurgical, f.o.b. works lb.	12.00	–
Terpin hydrate, NF, imp., cryst., powd., 38 kilo drums, f.o.b. ship. pt., frt. equald .... lb.	1.35	–
Terpineol .... lb.	1.10	1.50
Terpinyl acetate, extra, dms ...... lb.	2.40	–
prime, dms .... lb.	1.35	2.05
Terpinyl propionate, dms. .... lb.	4.50	–
Tetrachloroethylene, tech. (see Perchloroethylene).		
Tetrachloroethylene, USP, dms., c.l., t.l., works .... lb.	.30½	–
Tetraethyl orthosilicate, bulk, f.o.b. works .... lb.	1.53	1.66
Tetraethylene glycol, tanks, frt. alld. lb.	.67	–
Tetraethylene glycol diacrylate, t.l. dms., f.o.b. works .... lb.	1.50	–
Tetraethylenepentamine, tanks, same basis .... lb.	1.70	1.75
Tetraethylthiuram disulfide, tech., flake, dms., t.l., frt. alld. .... lb.	.88	2.07
Tetrahydrofuran dms., c.l., t.l., f.o.b works .... lb.	1.02	–
tanks, same basis .... lb.	.96	–
Tetrahydrofurfuryl alcohol tanks, f.o.b. Memphis, Tenn. .... lb.	.78	–
Tetrahydrolinalool, syn., dms ...... lb.	7.20	–
Tetrahydrophthalic anhydride dms., c.l., t.l. f.o.b. works .... lb.	.65	–
Tetrapotassium phosphate (see Potassium phosphate, tetrabasic).		
Tetrasodium pyrophosphate (see Sodium pyrophosphate, tetrabasic.)		
Thallium metal, divd. .... lb.	35.00	–
Thallium sulfate, 99%, bots., divd. kilo	140.00	–
Theobromine, bulk f.o.b. works ... lb.	4.00	4.50
Theophylline, USP, anhyd. 50-kilo dms., 10,000-kilo lots .... kilo	12.00	12.95
Thiamine hydrochloride, USP 100-kilo dms., divd. .... kilo.	27.00	31.00
Thiamine mononitrate, USP, 100-kilo., dms., divd. .... kilo.	27.00	31.00
Thioflavin green toners, molybdated, PMA, dms .... lb.	5.40	6.05
tungstated, PTA, dms .... lb.	5.60	5.85
Thioglycolic acid, refd., dms., ton lots 100% acid basis .... lb.	2.07	–
Thioindigoid maroon, dms., frt. alld. lb.	7.50	–
rods, dms., frt. alld. .... lb.	5.88	6.12
Thionyl chloride, high-purity, 99.6%, 24,000-lb. min. t.l., dms. frt. equald .... lb.	.55	–
Thorium nitrate, purif., dms., 100-lb. lots or more, works .... lb.	2.75	–
dl-Threonine, dms 10 kilos wks ... kilo.	128.00	–
Thyme leaves, French, bgs. ...... lb.	.90	.95
Spanish, bgs .... lb.	.88	1.10
Thyme oil, NF, red, dms. .... kilo	12.00	–
NF, white, dms .... kilo	22.00	–
Thymol, NF .... lb.	3.75	6.15
Thymol iodide, dms., 100-lbs. f.o.b. works .... lb.	52.30	56.20
Tin metal (NY composite) .... lb.	N.A.	–
Titanium dioxide, anatase, bgs., 20-ton lots, frt. alld. .... lb.	.73	.74
slurry shipments, 50-ton lots, dry basis, frt. alld. .... lb.	.72	.74
Titanium dioxide, rutile, reg., bgs., 20-ton lots, frt. alld. .... lb.	.78	–
slurry shipments, 50 ton lots, dry basis, frt. alld. .... lb.	.80	–
Non-chalking rutile material costs 1c. per pound more.		
Titanium hydride powd. electronics grade, dms. .... lb.	26.50	–
Titanium tetrachloride, tech., bulk, c.l., f.o.b. works .... lb.	.30	.35
200-gal cylinders c.l., same basis lb.	.50	–
Titanium sponge, 99.3%, fiber drums, less than 5,000 lbs. f.o.b. wks .... lb.	4.85	–
Tobias acid, 2,000 lbs. or more .... lb.	2.45	–
d-a-Tocopherols, 67%, dms ...... kilo	50.08	–
d-a-Tocopheryl acetate, 81% conc., dms .... kilo	57.49	–
d-a-Tocopheryl acid succinate, cryst., dms .... kilo	78.44	–
dl-a-Tocopherol, dms. .... kilo.	27.40	–
dl-a-Tocopheryl acetate, USP 50-kilo dm. 1000 kilo min. .... kilo.	16.00	18.50
50% dry powd., 50-kilo dm ..... kilo	17.00	–
Tolu balsam, cns. .... lb.	7.60	8.68
Toluene, petroleum, ind. or nitration, tanks		
Atlanta, Ga., divd. .... gal.	1.35	–
Bayonne, N.J., divd. .... gal.	1.32	–
Baytown, Tex., f.o.b. .... gal.	1.37	–
Chicago, Ill. divd. .... gal.	1.2823	–
Clairton, Pa., f.o.b. .... gal.	1.15	–
Deer Park, Tex., f.o.b. .... gal.	1.37	–
Ft. Wayne, Ind., divd. ...... gal.	1.34	–
Gulf Coast, spot, barges .. gal.	.60	–
Houston, Tex., divd. ...... gal.	1.22	–
New Jersey Metro, divd ... gal.	1.32	–
Philadelphia, Pa., divd. .... gal.	1.26	–
Providence, R.I., divd. .... gal.	1.35	–
Toluene di-isocyanate (mixed isomers), 80%, 2,4- and 20% 2,6- isomers, jumbo tankcars, divd. .... lb.	1.01	–
p-Toluenesulfonamide, powd., dms., t.l., works .... lb.	3.55	–
m-Toluidine, tech., bulk .... lb.	3.10	–
o-Toluidine, tech., liq., dms. c.l. .... lb.	.72	.75
bulk, same basis .... lb.	.60	.64
p-Toluidine, tech. cast solid, dms., cl., works .... lb.	1.80	1.85
Liq., tanks, same basis .... lb.	1.70	–
flake, same basis .... lb.	1.95	–
Toluidines, mixed, o-m-p, tech., liquid, c.l. f.o.b. works .... lb.	1.03	–
bulk same basis .... lb.	.95	–
Tolyltriazole, dms., 1,000-lb. lots, f.o.b. Cincinnati, Ohio .... lb.	2.90	–
Tonka beans, Angostura, prime, 1,000-lb. lots .... lb.	6.50	–
Toxaphene, dms., c.l., t.l., works .. lb.	.38	–
Tragacanth gum, No. 1, ribbons, cns. lb.	38.00	40.00
flaked powder .... lb.	12.50	15.00
Triacetin tanks, divd. E .... lb.	.75	–
Tributyl citrate, t.l., drums, f.o.b., works .... lb.	1.70	–
Tributyl phosphate, tanks, works .. lb.	1.65	1.77
Tributylamine, dms., c.l., divd. ..... lb.	1.39	–
tanks, same basis .... lb.	1.33	–
Trichloroacetic acid, tech., 300-lb. dms., c.l., f.o.b., works .... lb.	.94	–
USP, 100-lb. dms., frt. equald. .. lb.	.99½	–
1,2,4-Trichlorobenzene, pure, tanks, divd. .... lb.	.61½	–
1,1,1-Trichloroethane, tanks, consumers, divd. .... lb.	.40½	
1,1,2-Trichloroethane, tanks, f.o.b. works .... lb.	.42	–
Trichloroethylene, tanks, divd. .... lb.	.38½	–
Trichloroisocyanuric acid, dms .... lb.	1.25	–
Trichlorophenoxyacetic acid (see 2,4,5-T).		
Tricholine citrate, 65%, soln., non-ret. dms., 1,500-lb. lots, divd. .. lb.	1.35	–
Tricresyl phosphate, tanks, f.o.b. works .... lb.	1.55	1.60
Tridecyl alcohol, mixed isomers, tanks, divd. .... lb.	.57	–
Triethanolamine, 85%, tanks, divd. E. lb.	.45	.48
99%, tanks, same basis .... lb.	.45	.48
Triethanolamine lauryl sulfate, tanks, f.o.b. works .... lb.	.27¼	.27½
Triethylamine, dms., c.l., divd. ..... lb.	1.33	–
tanks, same basis .... lb.	1.20	–
Triethyl citrate, t.l., drums, f.o.b., works .... lb.	1.82	–
Triethyl phosphate, tanks, divd. ... lb.	1.15	–
Triethylene glycol, tanks, f.o.b. Gulf lb.	.47	–
Triethylene glycol dipelargonate, tanks f.o.b. works .... lb.	.29½	–
40-60% tanks, 100% basis, frt. equald .... lb.	.35	–
Triethylenetetramine tanks, frt. equald. lb.	1.43	1.45
Tri-iso-tolyl trimellitate, f.o.b. works lb.	.51	.55
Tri-isobutylene, tanks, divd. ...... lb.	.45	–
Tri-isopropanolamine, dms., c.l., frt. alld. E. .... lb.	.57½	–
Trimethylamine, anhyd., tanks, frt. equald., 100% .... lb.	.54½	–
25% soln., tanks, frt. equald., 100% basis .... lb.	.63½	–
40% soln., tanks, frt. equald., 100% basis .... lb.	.56½	.57
Trimethylolpropane bgs c.l. t.l. divd. lb.	.73	–
Trimethylolpropane triacrylate, t.l. dms., f.o.b. works .... lb.	1.50	–
Tripentaerythritol, tanks, frt. alld., E. lb.	1.00	–
Triphenyl phosphate, dms., t.l., frt. equald .... lb.	1.64	.78
Tripropylene glycol tanks, frt. alld. E .... lb.	.64	–
Tris-(hydromethyl) nitromethane, solid, t.l. works .... lb.	.605	–
Trisodium phosphate (see Sodium phosphate, tribasic)		
l-Tryptophan, dms, 25-kilo lots ... kilo	62.00	65.00
Tung oil, tanks, imp. New York .... lb.	.34	.39
Tungstic acid 92½%, dms., 1,750-6,000 lbs., works .... lb.	12.85	–
Turmeric, Alleppey .... lb.	.95	1.10
Turpentine, crude sulfate tanks, f.o.b. Southeast works .... gal.	70	80

U

Ultramarine blue pigments, 550-2,000 lb.-lots, works .... lb.	1.30	–
violet, same basis .... lb.	2.20	–
Umber pigment, burnt, American, frt. equald .... lb.	13½	15½
raw, American, dom., bgs., l.c.l., same basis .... lb.	13½	14¼
Undecylenic acid, dms., works ..... lb.	2.70	–
Urea, 46% N, ind., bulk, 50-ton c.l., divd .... ton	200.00	220.00
46% N, agricultural, bulk, divd. Midwest .... ton	200.00	215.00
46% N, agricultural, bulk, divd. West ton	210.00	–
Uva-Ursi leaves, bls. .... lb.	22	–

V

Valerian root, Belgian, bgs. .... lb.	.65	85
Indian, bgs .... lb.	45	–
Vanadium oxytrichloride, 3,000 lb. cyls., works .... lb.	5.40	–
Vanadium pentoxide, tech., gran., per lb. of V_2O_5, 550-lb. dms., works .. lb.	4.10	4.94
fused or flake, per lb. V_2O_5, 550-lb. dms., works .... lb.	3.35	3.65
Vandyke brown, bags., t.l., frt. equald. lb.	.27¼	–
Vanilla beans, Madagascar .... lb.	37.00	–
Java, tins .... lb.	27.00	30.00
Vanillin, USP, dms., f.o.b works ... lb.	6.25	–
imp., dms. .... lb.	4.75	5.00
Versinol Ag .... lb.	.64	–
Vetiveryl acetate, dms. .... kilo	60.50	–
extra .... lb.	63.00	–
Vetiver oil, Bourbon, dms. .... lb.	16.00	17.00
Haitian .... lb.	23.00	24.50
Java .... kilo	31.00	–
Victoria blue toners, molybdated, PMA dms .... lb.	6.20	6.30
tungstated, PTA, dms. .... lb.	10.40	–
Vinyl acetate monomer, tanks, divd. lb.	.39	–
Vinyl chloride monomer, polymer grade, tanks, f.o.b. works .. lb.	.28	–
Vinyl ether, USP, anesthesia, 75-cc. bots., hospitals .... bots.	1.56	–
2-Vinylpyridine t.l., dms. works. .. kilo.	7.81	–
tanks, works .... kilo.	7.61	–
Vinyltoluene, bulk, f.o.b. .... lb.	.67	.73½
Vitamin A, synthetic, dry, pharm., 500,000 A units per gm., 50-kilo. lots . kilo	33.00	–
Vitamin A, liq. in oil, pharm., 1,000,000 A units per gram, 10 kilo lots .. kilo	41.00	–
Vitamin A, feed grade, 650,000 units per gm .... kilo.	18.70	23.86
Vitamin B_1 (see Thiamine hydrochloride).		
Vitamin B_2 (see Riboflavin and Yeast).		
Vitamin B_{12}, cryst, non-sterile, USP (cyanocobalamin), vials, 50-gram, lots .... gram	8.00	9.75
Vitamin B_{12} 1% trituration of cryst. B_{12} (cyanocobalamin USP) with dicalcium phosphate, 25-kilo dms. kilo.	10.76	12.75
Vitamin B_{12}, 0.1% trituration of cryst. B_{12} (cyanocobalamin USP) with mannitol, 25-kilo. dms. .... kilo.	15.80	–
Vitamin B_{12}, cobalamin concentrate NF with mannitol, 1,000 mcg. per gram, dms, ... per gram activity	19.45	–
Vitamin B_{12}, 1% Vitamin B_{12}, USP, absorbed on resin, 5-kilo dms., 500-gram lots, frt. alld. per gram activity	15.65	–
Vitamin B_{12}, 1% cobalamin concentrate, NF, absorbed on resin, 5-kilo dms., frt. alld. per gram activity ..	15.40	–
Vitamin B_{12}, 1% cyanocobalamin in gelatin, 2.5-kilo dms., frt. alld. .... per gram activity	15.40	–
Vitamin C (see Ascorbic acid).		
Vitamin D (see Cholecalciferol)		
Vitamin D_2 (see Codliver and Fishliver oils).		
Vitamin E (see a-Tocopherol and Wheat germ oil).		
Vitamin H (see Biotin).		
Violet methyl toner (see Methyl violet toner)		

W

Warfarin 0.5%, dms., ton lots, frt. alld. New York or Chicago. ..... lb.	.75	–
Wheat germ oil, cold-pressed, ... gal.	16.50	17.50
cold-processed .... gal.	14.00	–
White precipitate, USP, powd., 100-lb. dms., f.o.b. works .... lb.	7.692	11.24
Whiting (see Calcium carbonate).		
Wintergreen oil, syn. (see Methyl salicylate).		
Witch hazel bark, bls. .... lb.	1.35	–
leaves, bls .... lb.	1.75	–
400 mesh, bgs., c.l. works ... ton	134.00	–
325 mesh, bgs., c.l. works ... ton	117.00	–
high aspect ratio, bgs., works ton	164.00	–
Wollastonite, t.l., f.o.b., producing plant, general grade ...... ton	200.00	–
325 mesh .... ton	140.00	141.00
400 mesh .... ton	160.00	–
1250 mesh .... ton	500.00	–
Wool grease, USP (see Lanolin).		
Wormseed oil (see Chenopodium oil, NF)		
Wormwood oil, cns. .... lb.	31.00	36.00

X

Xanthan gum, food 300-lb. dms., f.o.b. works .... lb.	5.86	6.20
Ind., grade, same basis ..... lb.	4.54	–
Xylene petroleum, ind. or nitration, tanks		
Alabama, La., f.o.b. .... gal	1.08	–
Atlanta, Ga., divd .... gal	1.35	–
Bayonne, N.J., divd .... gal	1.36	–
Bayonne, N.J. f.o.b. .... gal	1.31	–
Baytown, Tex., f.o.b. .... gal	1.40	–
Chicago, Ill., divd .... gal	1.36	–
Clairton, Pa. .... gal	1.22	–
Ft. Wayne, Ind., divd .... gal	1.37	–
Gulf Coast, spot, barges .... gal	.75	–
Houston, Tex., divd .... gal	1.25	–
New Jersey Metro, divd. .... gal.	1.38	–
Xylene, petroleum, ind. or nitration, tanks		
Philadelphia, Pa., divd. .... gal	1.38	–
Providence, R.I., divd. .... gal.	1.42	–
South Bend, Ind., divd .... gal.	1.37	–
m-Xylene, high purity, tanks, f.o.b. Texas City, Tex .... lb	.38	–
o-Xylene, tanks, works .... lb	.125	.145
p-Xylene, tanks, divd .... lb	.195	–
m-Xylenediamine, dms., t.l., f.o.b. works .... lb	1.70	–
2,4-Xylidine, tech., liq., c.l., t.l. f.o.b. works .... lb	1.60	–
Xylidines, mixed, o-m-p, dms., c.l., t.l., f.o.b. works .... lb	1.00	–

Y

Yara yara, 25-lb cns .... lb	2.81	–
Yeast, pure brewer's debittered, NF, Saccharomyces, t.l., f.o.b. works lb	1.10	–
Yerba, santa leaves, bls .... lb	2.40	–
extra, bots. .... lb	26.50	31.75
Ylang-ylang oil, extra grade .... lb	23.93	–
grade 1 .... lb	19.09	–
grade 2 .... lb	15.90	–
grade 3 .... lb	13.04	–

Z

Zein, bgs., 2,000-lb lots .... lb	7.50	9.30
Zinc acetate, NF, dms .... lb	1.00	1.78
tech., dihydrate, bgs., t.l., works lb	1.60	–
Zinc borate, tech., 43% ZnO, 37% B_2O_3, 50-lb bgs., 20,000 lb t.l. f.o.b. works .... lb	.55	–
cryst., 37% ZnO, 49% B_2O_3, 250-lb dms 20,000 lbs t.l. f.o.b. wks lb	89	–
Zinc chloride, USP, gran., dms. .. kilo	9.79	–
Zinc chloride, tech., soln. 50%, tanks, f.o.b. Cleveland, Ohio .... 100 lbs	20.20	–
Concord, N.C. .... 100 lbs	20.20	–
Freeport, Tex. .... 100 lbs	20.20	–
Old Bridge, N.J. .... 100 lbs	20.20	–
65 degree, same basis Cleveland, Ohio .... 100 lbs.	27.90	–
Concord, N.C. .... 100 lbs.	27.90	–
Old Bridge, N.J. .... 100 lbs	27.90	–
70 degree, same basis Cleveland, Ohio .... 100 lbs	29.70	–
Concord, NC .... 100 lbs	29.70	–
Old Bridge, NJ .... 100 lbs	29.70	–
72 degree, same basis Cleveland, Ohio .... 100 lbs	33.20	–
Concord, NC .... 100 lbs	33.20	–
Old Bridge, NJ .... 100 lbs.	33.20	–
Zinc chromate, bgs., divd .... lb	1.12	–
Zinc cyanide, dms., c.l .... lb	1.65	2.14
Zinc dust pigment type 1 & 2, dms., c.l., f.o.b plant .... lb	.59	.67
Zinc ethylenediamine tetracetic acid, 8.4% Zn, ammonia salt soln., t.c., t.l., f.o.b works .... lb.	.56	–
9% Zn., ammonia salt soln., t.c., t.l., f.o.b. works .... lb	.48	–
Zinc fluoborate, liq. conc., dms., t.l., works, frt. equald. .... lb	.66	–
Zinc metal, high grade, divd. .... lb	.44	–
Zinc naphthenate, liq. 8% Zn, dms., divd .... lb	.95	–
Zinc nitrate, tech., flake 300 lb. dms .. lb	.34	.38
Zinc oxide photo conductive, bgs., c.l., frt. alld. .... lb.	.47¾	.55½
Zinc oxide, USP 50 lb. bxs., c.l., frt. alld .... lb.	.46½	.69½
Zinc oxide pigment, American process, lead-free bgs., c.l., frt. alld. .. lb.	.40	.49
Zinc oxide pigment, French process regular, bgs., c.l., frt. alld .... lb.	.41	.51
Zinc phenolsulfonate, purif., gran., 250-lb. dms., t.l., frt alld. ... lb.	1.82	–
Zinc pyridinethione, 48% dispersion, dms., f.o.b. works .... lb.	8.50	8.80
Industrial grade	14.50	–
Zinc resinate precip. 7.2-7.6% Zn, dms., frt. alld .... lb.	.46	–
Zinc silicofluoride, dms., c.l., t.l., works .... lb.	.17	.2850
Zinc stearate, USP, bulk, t.l. ...... lb.	.92	1.48
Zinc sulfate, gran., monohydrate, indust. grade 36% Zn., bgs., c.l., works .... 100 lbs.	26.50	29.00
agricultural grade powd., bulk, same basis .... 100 lbs.	22.50	–
Zinc yellow (see Zinc chromate).		
Zinc-ammonium chloride, bgs., c.l., works .... lb.	.42	–
Zinc undecylenate, dms., works. .. lb.	4.67	4.70
Zinc-formaldehyde sulfoxylate, basic 200-lb. dms., frt. alld. .... lb.	1.05	–
Zircon gran. bgs., bulk c.l., works. . ton	165.00	177.00
Zircon milled bgs., 200 and 325 mesh, c.l., works .... ton	225.00	–
Zirconium acetate soln., 25% ZrO_2, dms., c.l., 30,000 lbs. min., works ... lb.	.97	–
22% ZrO_2, same basis .... lb.	.78	–
Zirconium hydride, powd., electronic grade, dms., works .... lb.	.81	.78
Zirconium oxide, powd., coml., dms., 2,000 lbs. min. .... lb.	4.25	–
electronic, same basis .... lb.	7.25	–
insulating, stabilized, 325°F same basis .... lb.	8.31	8.82
insulating, unstabilized, 325°F same basis .... lb.	3.65	3.78
dense, stabilized, 30F, same basis . lb.	2.82	.73
Zirconium oxychloride, liq., dms. 5-ton lots, works .... lb.	.81	1.04

CENTRIFUGES
P5400 Sharples, 316 S/S RECONDITIONED
P3400 Sharples, 316 S/S, (5)
P3400 Sharples, 316 S/S, carbide tiles
P3000 Sharples, 316 S/S, RECONDITIONED
P660 Sharples, 316 S/S (2)
40"x 60" Bird, 304 S/S, reconditioned by mfr.
6" Bird OBS, 316 S/S
NX314 DeLaval, 316 S/S
48" Sharples "Tornadomatic" 316 S/S (2)
48" Tolhurst, "Batch Master", S/S (2)
48" Sharples "Sludge-Pak" Model SP-6500, 316 S/S
48" Western States, "Sludge-A-Tron", 316 S/S, (3)
32" Baker-Perkins, pusher design, 316 S/S
26" AT&M suspended centrifuge, 304 S/S 5 H.P.
12" Krauss-Maffei, pusher designed, 316 S/S
8" Baker Perkins Pusher Design, 316 S/S
SB600 Alfa-Laval pusher design, 316 S/S

SZEGVARI ATTRITORS
60 gal. Szegvari, jacketed, stainless steel
15 gal. Szegvari, jacketed, stainless steel

PRESSURE FILTERS
480 sq. ft. Durco-Enzinger, Model 60DHC489, 316SS
370 sq. ft. Niagara Model 370-348, 304SS
322.8 sq. ft. Funda Model R-30, 316 S/S, jktd., 40 HP
314 sq. ft. Niagara, Model 42-310-22, 304 S/S
259 sq. ft. Pronto, Model 3259, S/S (2)
160 sq. ft. Sparkler, Model 33S30, S/S (2)
107 sq. ft. Sparkler, Model 33S19, Nickle

VACUUM FILTERS
8'x16' Ametek, 316 ELC S/S LIKE NEW CONDITION
6'x6' Ametek, polypropylene
5'x7' Paxman, 316 S/S, precoat
18"x12" Elmco, 316 S/S, precoat

REACTORS-TANKS
S/S, G/L Reactors, up to 5000 gal. capacity,
Tanks up to 15,000 gal. capacity (100's in stock)
(S/S, G/L, C/S, FRP)

HORIZONTAL BELT FILTERS
6'x18' Elmco, rubber belt, vacuum (2)
4'x12' Elmco, rubber belt, vacuum (2)
2'x10' Straightline, rubber belt, complete
2'x7' Straightline, rubber belt, complete
1'x3' Elmco, rubber belt, complete

BELT FLAKERS
60"x60' Sandvick, S/S belt, with cooling delumper, all accessories. NEW CONDITION
30"x20' Sandvik, S/S belt flaker, complete

FITZ CHILSONATOR
Size 16 x 30 Fitzpatrick Chilsonator System, all S/S construction, with size 30 granulator, with drives

BALL/PEBBLE MILLS
6'x8' Patterson Jacketed Steel Ball Mill, 50 H.P.
5'x6' Patterson Jacketed Steel Ball Mill, 30 H.P.
3'x4' Patterson Pebble Mill, aricite lined

SAND MILLS
12-30 Morehouse-Cowles Sand Mill, 50 H.P.
10-25 Morehouse-Cowles Sand Mills, 25 H.P. (2)
16-P Chicago Boiler "Red Head" 30 H.P.
3-P Chicago Boiler "Red Head," 7½ H.P.
Lab Chicago Boiler "Red Head," 1 H.P.

LAB 3 ROLL MILLS
6"x12" J.H. Day, high speed, complete
4½"x10" Ross, high speed, complete
4"x8" Kent, high speed, complete

ALL NICKLE CONSTRUCTION
500 gal. Nooter Reactors, 30/50 PSI (2)
500 sq. ft. U.S. Autojet Pressure Filter
107 sq. ft. Sparkler Pressure Filter, Model 33-S-19
5'x3' Ametek Rotary Vacuum Filter

JUST PURCHASED
7500 gal. Terre Haute Fermenters, 304 S/S, 50 psi (5)
4000 gal. horizontal batch still, S/S
2500 gal. Hicks tanks, 316L S/S, 50 psi or F/V
2000 gal. Nooter reactors, 316L S/S, 60/90 psi (8)
2000 gal. Pfaudler reactor, 316L S/S, 60/90 psi
2000 gal. Mueller reactor, 316L S/S, 60/90 psi
2000 gal. horizontal batch still, S/S (2)
1250 gal. S/S Mix Tanks, 10 HP Vari- Drive (2)
Misc. G/L tanks and kettles, to 3000 gal. (8)
ST 100 Aeromatic Fluid Bed Dryer, all S/S

MAJOR NEW PURCHASE
(84) NASH CL (WATERSEAL) VACUUM PUMPS
63-Model CL703 Pumps, 700 CFM to 3" Hg Absolute [illegible]
H.P. Direct Coupled Drive, mounted on base
18 Model CL702 Pumps, 700 CFM to 6" Hg Absolute
2 Model CL2002 Pumps, 2000 CFM to 6" Hg
Also available (11) Model H-6, (1) Model H-4, (1) Model L-7, complete with drives
ALL PUMPS IN LIKE NEW CONDITION

RESIN MFG. EQUIPMENT– OHIO LOCATION
5000 gal. Struthers-Wells Reactor System, 347 S/S, 50 PSI or full vacuum internal, 75 PSI jacketed, 700°F, turbine agitator, with condensor, receiver, piping, controls
15,000 gal. Stainless Steel Tanks, vertical, with internal coils, top entering 30 H.P. turbine agitators (3)
200 gal. Baker-Perkins Mixers, size 17GIM, type 304 stainless steel construction, fully jacketed, duplex dispersion blades, screw tilt, 40 H.P. (5)
35 gal. Patterson "Kneadermaster" Mixers, 304 stainless steel, sigma blades, jacketed, 40 H.P. (5)
100 H.P. Sprout-Waldron Hammermills, Model CG-26 (5)
28" dia. Reitz Thermascrews, 304 S/S, jacketed trough 28' long, 15 H.P. veridrive (2)
40"x84" Patterson Screens, 1 deck, S/S (9)
IMMEDIATE AVAILABILITY-CALL FOR DETAIL!

NEW LIQUIDATION
PVC Suspension Plant — Ohio Location
12-5,000 gal. Pfaudler Reactors, C/S construction, rated 220 PSI internal, 80 PSI jacket, 50/25 H.P. Philadelphia Gear Drive
Complete Nara Vertical Fluid Bed Dryer System, all S/S, 6'7" x 22'1", 2 stage, rated up to 10,000 #/hr., with heaters, blowers, cyclones
Complete Proctor Vertical Flash Dryer System, all S/S, 3'1" x 117'2", with heater, blower cyclones
20,000 gal. Stainless Steel Mix Tanks, 13'6"x19', 20 H.P. (2)
16,000 gal. Stainless Steel Mix Tank, 12'x18'4", 10 H.P. (1)
15,000 gal. Stainless Steel Mix Tank, 9'6"x27'6" 40 H.P. (1)
8,500 gal. Stainless Steel Tank, 9'6"x15'2" (1)
8,000 gal. Glascote Vacuum Receiver, Glass-Lined (1)
7,000 gal. Stainless Steel Mix Tanks, 13'x6"x8', 7½ H.P. (2)
6,500 gal. Glascote Vacuum Receiver, Glass-Lined (1)
2,250 gal. Stainless Steel Kettles, 6'8"x8', jacketed, 10 H.P. (1)
2,250 gal. Stainless Steel Kettles, 6'8"x 8', jacketed, 3 H.P. (2)
2,000 gal. Stainless Steel Mix Tanks, 6'x8'4", 2 H.P. (3)
1,000 gal. Stainless Steel Kettles, 5'4"x6', jacketed, 2 H.P. (2)
1,000 gal. Stainless Steel Jacketed Tanks, 5'4"x6' (2)
4-A.O. Smith Silos, Glass-Lined, 14'x40', bolted
1-Butler, Epoxy-Lined, 9'x32' welded
220 CFM Sullaire Compressor, 125 PSI, rotary screw design
117 sq. ft. Mikro Pulsair Collector, Model 25S-6-30, S/S
Derrick Screen, single deck, 3'x5'
Misc. tanks, feeders, blowers, cyclones, pumps

REACTORS
5000 gal. Struthers-Wells, 347 S/S, 50#/75#
2500 gal. Cryochem, 316 S/S, 75#/75#, with coil
1600 gal. Perry Products, 316 S/S, 75#/150#
750 gal. Pfaudler, Glass-Lined, 100#/90#
200 gal. Pfaudler, 316 S/S, 55#/60# UNUSED
200 gal. Pfaudler, Glass-Lined, 100#/75#
50 gal. Pfaudler, Glass-Lined, 25#/90# complete system
30 gal. Pfaudler, 316 S/S, 60#/90# UNUSED
30 gal. Pfaudler, Glass-Lined, 25#/90#
10 gal. Pfaudler, Glass-Lined, 150#/85#
5 gal. Pfaudler, 316 S/S, 50#/80#

S/S PULVERIZERS
60 ACM Mikro Mill, 75 H.P.
PC-38 Strong-Scott Pulvacon, 150 H.P.
FASO-20 Fitzpatrick "Fitzmill", 7½ H.P. (2)
D-6 Fitzpatrick "Fitzmill", 7½ H.P. (2)
1SH Mikro PUlverizer, 5 H.P.
Manesty "Rotogran" Oscillating Granulator

SPECIAL OFFERING
33' dia. Niro Spray Dryers, 316 S/S, UNUSED (2) complete spray drying facility, never installed, including (2) 33' dia. chamber, Model F-350 centrifugal atomizers. All equipment new 1978, as shipped from Niro awaiting installation.

10' dia Niro Fluid Bed Dryer , 304 S/S, UNUSED, complete system with drying chamber, heating-cooling systems, feed tanks, cyclone collectors, all piping.

VACUUM DRYERS
375 cu. ft. Stehning, Double Cone, S/S (9)
175 cu. ft. Venuleth, Double Cone, S/S (3)
60 cu. ft. DeDeitrich, Double Cone glass lined
50 cu. ft.F.J. Stokes Double Cone, 304 S/S
40 cu. ft. F.J. Stokes, Rotary, Vacuum, 30"x8', S/S
21 cu. ft. Balfour, Double Cone, glas lined
20"x10' Zimmer dble. screw Holoflites, S/S jktd.,vac. (3)

MIXERS
200 gal. B-P, C/S, sigma, jacketed, vac., 75 H.P. (3)
75 liter Papenmeir Mixer, S/S, jacketed, 30 H.P. varidrive
8 cu. ft. Kelley Duplex, paddle, S/S, NEW
3.5 cu. ft. J.H. Day, Nauta, S/S

DISPERSERS
25 H.P. Shar, XP, variable speed
15 H.P. Meyers, XP, variable speed

FARREL LAB 2 ROLL MILLS
8"x16" Farrel Lab Mill, electrically heated, variable speed, variable friction
6"x13" Farrell Lab Mill, 10 HP drive
3"x7" Farrell Lab Mill, oil heated, variable speed

LITTLEFORD MIXERS
FKM 8000 D, 169 cu. ft., carbon steel, 4choppers
FKM 8000 D, 169 cu. ft., carbon steel
KM 4200 D, 86 cu. ft., jacketed, stainless steel
FKM 3000 D, 65 cu. ft., jacketed, stainless steel
KM 2000 D, 43 cu. ft., jacketed, stainless steel
M 20 E, .42 cu. ft., jacketed stainless steel

S/S RIBBON BLENDERS
2-215 cu. ft. Cleveland Mixer, double ribbon, 25 H.P.
1-150 cu. ft. Readco, double ribbon, 40 H.P.
1-36 cu. ft. J.H. Day, double ribbon, 10 H.P.

ROSS PLANETARY MIXERS
40 gal. Ross, HDM-40, S/S, jacketed, vacuum, 10 H.P. varidrive (2)
25 gal. Ross, HDM-25, S/S, 15 H.P. varidrive
2 gal. Ross, 130-ELS, S/S, jacketed, vacuum, ¾ H.P. varidrives

ARTISAN EVAPORATORS
50 sq. ft. Artisan "Roto-thorm" Evaporators, all S/S construction, F/V internal, 150 PSI jacket (2)
1 sq. ft. Artisan "Rototherm' Lab System, all S/S

COMPACTING PRESSES
78 ton Bipel Preform, Model 70T, complete
6½ ton Manesty, Model BB3A, 27 station
6½ ton Manesty, Model BB3A, 33 station
4 ton Manesty, Model F-3, single punch

REFRIGERATION
200 ton Lewis Package Chiller, complete
30 ton Application Engineers, Package Chiller
15 ton Application Engineers, Package Chiller
10 ton Application Engineers, Package Chiller
7 ton Mayer Package Chiller
5 ton Dunham Bush Package Chiller
5 ton Peuchen Package Chiller, (2)

SCREENS
48" Sweco, S/S, 1 deck
30" Sweco, S/S, 2 deck
18" Kason, S/S, 1 deck, unused (3)
36"x96" Rex-Carrier, 1 deck, S/S (4)
20"x48" Rotex, 1 deck, S/S

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Drum Dryers/Flakers
(1) 24" dia. x 36" Buflovac SS dble. drum dryer
(2) 32" dia.x 108" Blaw Knox CI dble. drum dryer
(1) 32"dia. x 17'6" Sandvik SS belt flaker
(1) 36"dia.x 10' Buflovak CI dble. drum dryer
(3) 42"dia.x120"Blaw Knox CI dble. drum dryer
(1) 48"dia.x 28" drum flaker, chrome plated drum
(1) 48"dia.x 40" CI flaker, mfg. by Buffalo Foundary
(1) 48"dia.x 40 drum flaker, nickel plated drum, mfg. Blaw-Knox

Fluid Bed
(1) 60 Kg. Aeromatic, Batch, 6'x9', 56,000
(1) 100 Kg. Aeromatic Model ST 100, sanitary SS
(1) Fitzpatrick Model FA 250, SS, 20 HP XP

Holoflite
(1) Western Precipitation Model P80SSO-A, twin screw, 12" dia. x 20' long, SS constr., jckt. rated 15 psi, complete with 7.5 HP vari-speed drive.
(1) New/Never Used Joy Processor, CS, single screw, 16"x16' long, rated 110 psi @ 340° F., sprocket & chain drive by 1.5 HP varispeed drive.

Rotary Vacuum
(1) 200 Cu. Ft. Stokes, SS constr., complt.
(2) 165 Cu. Ft. Pfaudler, Double Cone, G/L, 30 &FV/50 psi jktd., 15 HP vari-drive
(1) 150 Cu. Ft. Blaw Knox, Nickel
(2) 132 Cu. Ft. Stokes, Nickel
(1) 72 Cu. Ft. Blaw Knox, SS
(1) 60 Cu. Ft. Titanium Double Cone
(1) 50 Cu. Ft. Gemco, 316SS sanitary, double cone
(1) 37.8 Sq. Ft. Horiz. Thin Film, vac. int. & 150 psig, 304/316SS
(1) 30 Cu. Ft. P-K Twin Shell, 304SS
(1) 20 Cu. Ft. Abbe Twin Cone, 304SS

Spray
(1) 30"x3' Bowen Laboratory w/3' cone bottom, SS constr., w/centrifugal atomizer, 3 HP blower & motor.(1)
(1) Niro lab size 32"diax2'w/2'cone w/centrif. atomizer SS contacts
(1) 7'10" Dia. Anhydro Complete System, sanitary SS
(1) 18' dia. Bowen complt. system SS contacts, new 1976

CENTRIFUGES
(1) Deleval BRPX 309, SS, 20HP
(1) Unused Model B-10 Podbielniak, Alloy 20
(1) Sharples AS-26, SS
(2) Sharples AS-16P, 316SS
(1) Alfa-Laval SS Decanter, Horiz., Mdl. NX314
(2) Dorr Oliver Mdl. CH30 CSU "Merco," 316SS contacts, 150 HP
(1) Baker Perkins S-82 "Pusher Type," SS, 50 HP
(1) Bird 18" x 28", 316 ELC, contour bowl.
(2) Bird 24"x38", 316SS, 40 HP
(3) Sharples P-3000, 316SS, 30 HP
(1) Sharples P-1000, SS 20HP
(1) Unused Bird 36 x96, 317L SS
(1) Tolhurst 48" x 24" perf. basket, 316SS sanitary, auto. plow & discharge, rated 85 #/cu. ft. @ 900 RPM, 20 HP XP.
(1) Tolhurst 48" x 24" Batchmaster, 316SS, perf. basket, w/hydr. plow & 20 HP hydr. drive
(1) Tolhurst 48"x24" Batchmaster, rubber lined, perf. basket, w/hydr. plow & 20HP hydr. drive
(2) Tolhurst 48" x 24" Batchmaster, Heresite lined, perf. basket, w/hydr. plow & 20 HP hydr. drive
(1) Western states 48"x 24", 316 SS
(1) Fletcher 48"x 28" Suspended type, SS perf. basket, 20/10 HP
(1) Sharples Tornado 48" x 30", 316SS, perf. basket, 40 HP XP
(1) Alfa Laval Model MAPX 210 T24, SS wetted parts
(2) Sharples C-27, 316 SS, wetted parts, 40 HP
(1) Sharples C-20, Super-D-Hydrator, SS, 30 HP
(1) Dorr Oliver Mercone Screener Model C-400 X2, all SS, twin screw disch., 10 HP

PARTIAL LISTING ONLY

EVAPORATORS
(1) 1 Sq. Ft. Artisan "Kontro" Ajust-O-Film sys., 316SS
(1) 1.4 Sq. Ft. Luwa Wiped Film, 316SS, 1.5 HP
(1) 1.4 sq. Ft. Luwa thin film SS
(1) 5.4 sq. Ft. Luwa filmtruder, 316 LSS
(1) 6.54 Sq. Ft. Votator Evaporator System,316 SS contracts, 15 psi & FV & int., 150 psi jkt.
(1) 8.7 Sq. Ft. Rodney Hunt Turbo-Film, 304 SS contact parts, 15 psi & FV/150 psi jckt.
(1) 10.8 Sq. Ft. Luwa SS Wiped Film Evap. System, 15/550 psi
(1) 19.5 Sq. Ft. Votator Turba-Film, 304 Sanit. SS FV/150 psi 10HP
(1) 20 Sq. Ft. Kontro Horiz. Adjust-O-Film, 316ELC, 50 psig, 15 HP
(1) Approx 31 Sq. ft. Vert., Turbo-Film Processor, 304 SS Contacts
(1) Like New 37.8 Sq. Ft. Luwa Horiz. Thin-Film Dryer, 304/316L SS
(1) 40 Sq. Ft. Kontro Adjust-O-Film, SS constr., 20 HP
(1) 47 Sq. Ft. Artisan rising Film, Hast. C
(1) Approx 51 sq. ft. Pfaudler Wiped film, 316 SS, 100/85 & FV
(1) 80 Sq. Ft. Kontro Wiped Film Syst., SS constr. FV/150 psi, 40 HP
(1) UNUSED 86 sq. ft. Luwa thin film dryer horiz. 316 L wetted parts, FV int., 150 psi sat steam jkt.
(1) 141 Sq. Ft. Rodney Hunt Turbo-Film, 316 SS 15 psi int., 35 psi jkt 40 HP XP

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BLENDERS
800 Cu. Ft. jktd. Dbl.Rbn., CS
Approx. 480 Cu. Ft. CS, 75HP
UNUSED 460 Cu. Ft. Marion Paddle, CS, 75 HP
300 Cu. Ft. CS Dbl. Cone, 30 HP
200 Cu. Ft. KS 316SS Dbl. Cone
175 Cu. Ft. P-K Twin Shell, 316SS
69.3 Cu. Ft. CS Dbl. Cone, 7.5 HP
63 Cu. Ft. Marion Paddle, CS
60 Cu. Ft. 304 SS P-K, Twin Shell, w/int. bar
60 Cu. Ft. Gemco Dbl. Cone, 304SS
30 Cu. Ft. P-k, 304 SS, W/liq. bar.
20 Cu. Ft.P-K, Twin shell, SS
16 Cu. Ft. Robinson Dbl. Rbn. CS
15 Cu. Ft. WC Marion SS
10 Cu. Ft. Gemco dbl. cone, CS, 1½HP
10 Cu. Ft. P-K Sanit Twin Shell 1½HP
10 Cu. Ft. Howes, CS, Dbl. Rbn.
5 Cu. Ft., SS, Dbl. Cone W/liquid-solids bar
2 Cu. Ft. P- K Twin Shell, SS Constr., w/pin int. bar

FILTERS
Pressure Leaf
1-562 Sq. Ft., 316ELC, Hercules, 28 leaves
1-512 Sq. Ft., 316SS, Niagara, 21 leaves
2-400 Sq. Ft. R/L Sparkler
1-327 Sq. Ft., 304SS, Ind. Filter, 11 leaves
1-320 Sq. Ft. Durco 316 SS, 11 Leaves
1-259 Sq. Ft. Pronto Mdl. #3259, 75 psig
1-Approx. 206 Sq. Ft., SS, Sparkler, Horiz.
1-200 Sq. Ft., SS, Hercules, Horiz.
1-191 Sq. Ft. Enzinger, SS, Vert., 75 psi
1 - 157.64 sq. Ft. Sparkler model 55-5-28, 316SS
1-150 Sq. Ft. Horiz., 12 Vert. Leaf 316SS
1-135 Sq. Ft. Ni, Bowser, Vert.
1-35 Sq. Ft. Hercules Model 5, 316 SS, horiz. tank vert leaves 50 psi

Rotary Vacuum
1-56.5 Sq. Ft. KS, Inconel 600
2-56.5 Sq. Ft. K-S, 316SS, flexibelt disch.
1-87.92 Sq. Ft. Feinc, SS wetted parts, spring disch., 56" dia. x 6' face drum
1-132 Sq. Ft. Dorr Oliver, 304SS, maxibelt disch.
1-200 Sq. Ft. Elmco, 316SS, 8'x8'
4-250 Sq. Ft. D.O. 316L SS Precoat, 8" x10', sanit
1-250 Sq. Ft. K-S 316SS, coil disch.
1-300 Sq. Ft. Elmco, 316SS wetted parts, precoat type w/knife disch., 10" dia. x 10' drum, complt. w/control panel & aux. equipment
1-314 Sq. Ft. Elmco, precoat disch., 316SS
1-400 Sq. Ft. Elmco, CS, Precoat
1-500 Sq. Ft. Elmco, 316SS, belt disch.
1-3'x1' 316SS, knife disch.
1-3'x1' Dorr Oliver, FRP w/receiver & Nash H4 vac. pump, 10 HP
1-3'x 1' K-S comp. sys., 316 SS Flexbelt disch

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120,000 gal. Capacity Propane Storage System consisting of 2-60,000 Gal. Propane Tanks, Compressores, Pumps

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St Regis Bag Packer, Model #718 MLT.
5000 Gal. 304 SS Jcktd., Mix Tank

Alfa-Laval Centrifuge, Model NX214/314.
8000gal. CS, Ammonia Storage Tank, 250 PSI.
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1,000 Gal. Pfaudler, RA60 Series, 100& FV/90 psi, 4TW
800 Gal. SS clad, 60/60 psi
750 gal. DeDietrick, Phila drive
500 Gal. Pfaudler, 100&FV/85 psi, BH drive
500 Gal. Pfaudler E-series, 4 TW Drive
75 Gal. Pfaudler, 25 & FV/85 psi, 2 HP
50 Gal. Pflauder Body-UNUSED, 25 FV/-100psi
*Partial Listing - Much More Inventory Glass Lined Storage Tanks & Parts also Available.

Stainless Steel
4,000 Gal. 316SS, Atmos./50 psi, withcoils
3,000 Gal. 347SS Blaw Knox, 150/50 psi
2,500 Gal. 316L SS, 75/75 psi, 150 psi int. coils
2000 Gal. Nooter Autoclave, 316L 2000 psi, FV int. coils
2,000 Gal. Dusenborg, 316 SS,15/35 & FV int., 50 psi jkt.
1,750 Gal. 316SS Nolte, 1467/50 psi
1,500 Gal. 304SS, 10 HP Lightnin
1,000 Gal. 304SS, 250/80 psi
1,000 Gal. 316SS, 50/75 psi jkt
750 Gal. 316SS, 75 & FV/50 psi
750 Gal. 304SS, 50/60 psi
600 Gal. 316SS, 3000psi, 10 HP
600 Gal. SS, 50 psi, 1.5 HP XP
500 Gal. 316SS, 55 & FV/55 psi
100 Gal. 316SS, 15/50 psi
100 Gal. 316ELC SS, 500/90 psi

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1-UNUSED, never installed Krauss Maffei Turbo Tray Dryer, 29 trays, 9' 9"dia., 316 L SS, all other wetted parts 316 SS, complete unit.
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MIXERS
4.5 Gal. Kneader Master Cont., SS w/jkt.
5 Gal. AMK 304SS Jckld. Kneader Extruder
15 Gal. W.C. Readco Sigma Blade Dbl. arm
25 gal. Readco DBL/Arm Sigma Blade jktd. SS construction 15 H.P.
60 Gal. Hockmeyer Pony, SS contacts, 7.5 HP varispeed
100 Gal., SS, Sigma Blade, Jcktd. 40 HP
200 gal. W-P CS dble arm Sigma blade, 20 HP
250 gal. AMK Kneader Extruder, Sigma Blades, CS construc, 40 psig,trough jkt.
500 Gal. S-W Rubber Cement, CS, 2-10 HP motors (2)
Unused 1000 Gal. Sanitary 316SS B-K Dbl. Motion Change Can; 100&FV/165 PSI, 125HP
Littleford Model FKM-2000, SS, w/choppers
Littleford Model FM 100 Sanit. SS w/choppers
Prodex Henchel 3,5 Cu. Ft. Mdl. 35 J SS, SS Const.
7 Cu. Ft. 304SS Nauta Model MBX-70
10.6 Cu. Ft. Nauta D-105, CS
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15 HP Hockmeyer Hi Speed Disperser
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21237-Shrink wrap oven, heat controls, vert. raising unit.
21119-Fitzmill D1606, S/N D6-4158, 7.5 HP.
21230-Mikro Mill, 75 HP vari speed drive. (2)
21172-Bins, 304SS, 30"x 30"x 3' str.side, 20 cu.ft. (2)
21258-CS Bin, vert., 3'x3'x3'H, 30" cone, 6" outlet, 35 cu.ft.
21292-Bin, CS, 40"x40"x30"H, 35 cu.ft. (3)
21214-Bin, CS, 44"x44"x40"H, 55 cu.ft.
21233-Hopper, 5'x5'x2'H, 60 cu.ft.
21293-Bin, CS, 4'x4'x4'H, 80 cu.ft.
21199-Bin, SS, 5'x5'x30", 90 cu.ft.
21264-Hopper, SS, 5'dia.x 4', 100 cu.ft.
21139-Hopper, SS, 8'x5'x4', 107 cu.ft.
21213-Bin, CS, 7'x7'x30", 200 cu.ft.
21225-Bin, SS, 5'W x 10'L x 4'H, 220 cu.ft., 1600 gal.
21144-Bailey blower, 36"dia., 3 HP.
21278-Blower, Cellcote, FRP 4000-5A, mdl.CLMR18, 7 1/2
21178-Unused blower, Sutorbuilt, mdl.5HV-B, S/N 57824.
21227-Buffalo Blower mdl. 6E, 25 HP. (2)
21301-Sutorbuilt Blower, mdl.5HV-B, 25 HP TEFC. (2)
21194-Buffalo Blower, size 7, S/S, 60 HP. (2)
21161-Cleaver rooks Boiler, 25 HP, gas. 150 psi.
21111-Platform Scissor lift, 4000 lb.cap., 48"x48", 1 1/2 HP.
21125-Dust Collector, Fabri-Jet mdl.SQ9-4B bin vent, 42 sq.ft., 1 HP(2)
21110-Bin vents, 58 sq.ft., Premier Filtair, 304SS. (2)
21153-EVO Dust Collector, bin vent, 72 sq.ft., S/S, 5 HP (2)
21192-JH Day dust collector mdl.RJ-18RJ36, 125 sq.ft., CS, 1 1/2 HP blow., 3 HP
21222-Fabri-Jet dust collector mdl.SQ16-60, 151 sq.ft.
21286-Mikro dust collector, 285 sq.ft., S/S, type 48-6, SN59-478.
21163-Filterite filter, cart.mdl.910343, 1981, 300 psi 200F. (2)
21188-Hot Air Furnace, gas fired, Kozma, 4 1/2'x6'x58"H, 10
21191-Hot Air Furnace, gas, Kozma, 5'x10'x6', 10HP.
21229-Hot Air Furnace, gas, Kozma, 430SS, 4'9"x8'x 5'6", 10 HP.
21248-Lab Counter, dbl. faced, 54"x 38" x 20'6" long.
21249-Lab Counter, dbl.faced, 54" x 38" x 10', 1 1/4" stone top.
21282-Balance, O-Haus Moisture determination mdl.6000.
21251-Stone sink, 11/4", 22"x22"x7"deep.
21206-Mikro Pulverizer, 100 HP, water cooled. (4)
21215-Mikro Pulverizer, 4SCB, 100 HP.
21146-Mikro Pulverizer, 125 HP. (4)
21160-Mikro Pulverizer, spare assembly.
21117-Delumper, CS, 24"dia. x 14"W, 2 HP drive. (2)
21122-Entoleter, type E1D, series 14, 5 HP drive. (2)
21130-Pulvacron Strong Scott, mdl.38-B, 38"dia., 150 HP, varispeed. (2)
21135-Pfaudler Reactor, 1000 gal., 316SS, jkt.100 psi.
21285-Toledo Scale platform dial, 1000 lb. dial x 1 l.
21279-Russell Finex twin turbo sieve machine, mdl.A159120, sanitary, twin 3 HP.
21118-Sprout Waldron sifter, D10, gyro whip, 1 HP, 5 decks all S/S.
21150-Sprout Waldron sifter, D10, 1 HP, 10 decks, S/S contacts. (3)
21187-Sprout Waldron sifter, D10, 2 HP, 10 decks, S/S cont.
21186-Sprout Waldron sifter, D10, 2 HP, 5 decks, S/S contacts.(2)
21203-Sprout Waldron sifter, D10, 3/4 HP, 6 decks, S/S cont.
21280-Rotap Sieve Shaker, 10 screens.
21134-Sprout pedestal sifters, portable, 304SS, 1/4 HP. (2)
21195-Sweco separator, 30" mdl.LS30C666, 1/2 HP, 3 deck
21223-Aerodyne Dust Cyclone, mdl.3000SV, 60 HP, 304SS
21140-Aerodyne seperator, mdl.SV4500, vert. cyclone.
21141-Cyclone, S/S, 5'dia.x 20', 4'st.side, 15' cone. (2)
21154-Cyclone, 304SS, 8'dia.x 25', 5'st.side (2)
21158-Wet Scrubber, F/K WH-300 venturi, 304SS, 50 HP XP.
21290-Tank, vert, 70 gal., S/S, 2'dia.x3', open top, flat bot, agitator.
21291-Tank, S/S, 70 gal., 2'dia.x 30"H, hinge top, flat bottom.
21289-Tank, S/S, 100 gal., 30"dia.x 30", 3/4 HP, agitator.
21126-Tank, vert., 230 gal., S/S, 38"dia.x 54", hinge cover.
21281-Tank, vert., 290 gal., S/S, 3'dia.x 5'6", dish top & bottom.
21131-Tank, 950 gal., T304SS, 5'dia.x6' dish bot., flat top, agit.
21283-Tank, S/S vert., 1200 gal., 6'dia.x 6', flat top & bottom.
21277-Tank, vert., 2500 gal., S/S, 6'dia.x12'H, flat top & bot.
21282-Cooling Tower, M/A model 4429, SN2888, 7'x 6'x6' H.
21243-Office Trailer 12'x 60', 5 offices, cent.H/Air, w/ wheels.
21244-Office Trailer 12'x 60', 3 offices & conf.rm., H/Air, w/ wheels.
21287-Robar Dispoza Pak, mdl.D-600, Unused compactors, bailer 2'x 2'.(2)

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21711-Bins, 304SS, 850 cu.ft., 6300 gal., 6'6"dia. (10)
21626-Bins, 304LSS, 1300 CF/9700 gal., 11'6", S S. (2)
21716-Silos, C/S, 60'dia.x 50'H. (4)
21634-Blower, Roots Rotary Lobe, mod.FTB 3505J, 5 HP, unitized, silencers. (4)
21635-Blower, Roots Rotary Lobe, mod.FTB2506J, 5 HP, Silencers. (2)
21638-Blower, Roots Rotary Lobe, mod.3505J, 7.5 HP, silencers.
21633-Blower, Roots Rotary Lobe, mod.FTB406RCSJ, 10 HP, unitized. (6)
21639-Scwitzer Blower, C/S, 15 HP, 402 CFM.
21637-Schwitzer Blower, 40 HP, 815 CFM. (2)
21632-Blower, Roots Rotary Lobe, mod.FTB412RCSJ, 50 HP, unitized. (3)
21636-Schwitzer Blower, CS, 50 HP, 1126 CFM.
21739-New York Blower, series 30, CS, 50 HP (2)
21630-Blower, Roots Rotary Lobe, mod.FTB 624RCSJ, 100 HP, unitized. (2)
21631-Blower, Roots Rotary Lobe, mod.FTB616RCSJV, 100 HP, unitized. (3)
21628-Blower, Roots Rotary Lobe, mod.FTB832RCS, 150 HP, unitized.
21629-Blower, Roots Rotary Lobe, mod.FTB821RCSJ, 150 HP, unitized.(3)
21640-Bird Centrifuge, 24"x 96", mod.HB3900, T304 SS, contour bowl 10 deg., 150 HP. (3)
21703-Nooter Rotary Vacuum Dryer, 4'dia.x 14', 140 cu ft., FV/100 psi Intern., 100 psi jkt., 316SS, 100 HP. (6)
21655-Dust Collector, EVO, air pulse, 87 sq ft., 281 CFM. (6)
21657-Dust Collector, EVO, air pulse, 90 sq.ft. (5)
21656-Dust Collector, EVO, air pulse, 304 SS, 102 sq ft., 464 CFM. (8)
21654-Dust Collector, EVO, air pulse, 640 sq.ft. (2)
21662-Rotary Valves/feeder, Flotronics, 6", CS, 3/4 HP. (36)
Rotary Valves/Feeders, flotronics, 6", S/S 3/4 HP. (24)
21665-Rotary Valves/Feeders, flotronics, 10", CS, 1 HP. (40)
21666-Rotary Valves/Feeders, flotronics, 10", CS, 1 HP. (2)
21667-Rotary Valves/Feeders, flotronics, 10", S/S, 1 HP.
21663-Rotary Valves/Feeders, flotronics, 14", S/S, 3 HP.
21740-Rotary Valves/Feeders, flotronics, 14", CS, 3 HP. (2)
21672-Rotary Valves/Feeders, flotronics, 16", CS, 3 HP.
21664-Rotary Valves/Feeders, flotronics, 18", CS, 5 HP.
21676-Overstrom Feeder, vibrating, 24"W x 11'L, 1.5 HP.
21677-Overstrom Feeder, vibrating, 24"W x 12'L, 1.5 HP.
21681-Hot Air Furnace, Combustion Engineering, gas fired, 5000 ACFM to 19,800 ACFM at 750 to 1050F. (4)
21682-Heat Exchanger, CS, 850 sq.ft.
21649-Trough Belt Conveyor, 30"x 40', 3 HP.
21646-Silo Sweep Auger, 10"dia.x 27', 7.5 HP. (4)
21645-Screw Conveyor, 304SS, twin screw, 20'L, 8 HP.
21643-Screw Conveyor, 304SS, twin 14"dia.x 76.5', 15 HP.
21642-Screw Conveyor, 316SS, 24"dia.x 16'8", 10 HP. (2)
21719-Diverter Valves, flotronics, 8", aluminum, air operated (4)
21721-Diverter Valves, flotronics, 4", aluminum, air operated (4)
21723-Diverter Valves, flotronics, 2", S S, air operated. (2)
21724-Diverter Valves, flotronics, 6", aluminum, air operated. (13)
21734-Diverter Valves, flotronics, 6", S S (2)
21735-Diverter Valves, flotronics, 4", aluminum. (6)
21736-Diverter Valves, flotronics, 12", aluminum, air operated.
21647-Overstrom Conveyor, vibrating, 24"W x20'L, 3 HP.
21644-Pug Mill, 304SS, 200 cu ft., twin paddle, twin 30 HP
21693-Sprout Waldron Airmix Blender, 500 cu ft., 304SS.
21695-Automated Bagging System, twin screw feeder, 6"dia., w scale, bag de-aerator, programmable controller.
21696-Semi Automatic Bagging system, How Richardson mod.GS17, hot seal bag closure
21694-Palletizing conveying system, transfer conveyor, auto bag palletizer 10 layer
21683-Mikro mod 4th & 4MP, 125 HP (20)
21700-Triplex Pump, 50 GPM, 1500 psi, 50 HP
21701-Peabody Sump Pump, 100 HP (3)
21702-Gorman Rupp, 75 GPM, 3 HP (3)
21741-Carrier Heating cooling coil unit, roof top (24)
21742-Sutton Steel Concentrator, 25 HP blower
21705-Sutton Steel separator, mod 40-60A, blower, 10 HP.
21648-Ducon Cyclone, 304SS, 38 3 8"dia., 7500 ACFM. (8)
21650-Ducon Cyclone, 38 3 8"dia., 7500 ACFM, 304SS. (8)
21709-Fume Scrubber, Croll Reynolds, FRP construction.
21714-Tank, 750 gal., CS, epoxy lined, 5'dia., flat top
21712-Tank, horiz., CS, 120 gal dish heads
21713-Tank, 8,000 gal., CS, dish heads, 100 psi. (2)
21641-Tank, 1300 gal vert., 304SS, dish bottom (7)
21710-Tank, 2000 gal vert., FRP, 7'dia.
21715-Tank, 2000 gal horiz., FRP, 6'dia (3)
21688-Copper Armour cable, 25 KV 500 MCM, 5 reels, 1200' per reel
21691-Electric cable, 1 reel 710', 050 813355 5KV armor cable.
21692-Electric cable, 1 reel 207', 050-8133563 5 KV armor cable.
21690-"Dispozapak" Compactor, mod D600, trash bailers.
21687-Mikro Mist Lubrication System, two oil pumps, on air heater.
21697-Shrink Wrap Machine, 12 pallets p/h normal rate. (2)
21685-Lawson Central Vacuum Cleanin System, cleaning tools & attachments.
21686-Lawson Central Vacuum cleaning System, cleaning tools & attachments.

UNUSED LATE MODEL EQUIPMENT AT LOW, LOW PRICES CALL NOW (312) 350-2200

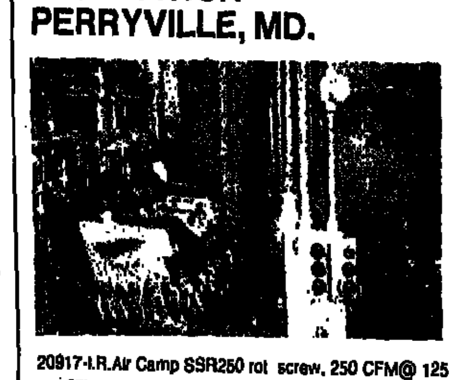
BUY FROM CHARLESTON S.C. LOCATION AND SAVE!

COFFEE PLANT . . . . HOUSTON, TEXAS

21438-Western States 48"x30" perf. basket 60 HP hyd. (4)
21449-C/P Air Compressor Y-CBO-B2, 125 HP. (3)
21448-York Refrig. Compressor Centrifugal, 500 HP & 900 HP (7)
21437-Sandvik Belt Flaker, 48"x100', S/S. (4)
21452-Flex Kleen Dust Collector, 172 sq.ft. pulse jet, 5 HP (2)
21451-Rex Vibratory, S/S feeders. (2)
21454-Votators, COB 327, S/S, 6", 15 HP. (2)
21440-Mueller 500 gal. jkt. 125 psi, agit. 15 HP. (2)
21442-Fitzmill FASO-20, jkt. body, S/S (8)
21439-Manton Gaulin Homogenizer, S/S, 2 HP (8)
21445-Rotex 42"x84" screen, S/S, single deck (12)
21453-Paramont 30"x11'6", S/S feeder. (2)

STAINLESS STEEL TANKS—250, 300, 400, 700 gal. (22 AVAILABLE) PUMPS AND OTHER MISC. ITEMS

POLYMER PLANT . . . . LIQUIDATION PERRYVILLE, MD.



20917-I.R. Air Camp SSR250 rot screw, 250 CFM@ 125 psi
20918-1000 gal SS, 60" x 6'6" agit
20919-3000 gal. SS, kettle, 84" x 10'4"H, agit. (2)
20922-2000 gal SS, tank 72" x 9'H 60#/FV
20923-4600 gal. reactor, 68" x 27'H, 200# int., 75# jkt, agit. 15 HP (4)
20925-3000 gal. tank, 84" x 10'4"H
20926-1000 gal. tank, 72" x 78'H, SS, 60 psi (2)
20928-5000 gal. tank, 6'6" x 20'10"H, 60#/FV
20930-Ht. Exch. 848 sq. ft., SS, 8 pass. (2)
20931-Sweco 30" SS, 1 deck
20932-Sweco 48" SS, 1 deck
20933-Pulse Clean 38-8, SS, 1500 CFM, 348 sq. ft.

LARGE POLYSTYRENE PLANT LIQUIDATION . . . .

BUY FROM ILLINOIS AND SAVE!

- Pfaudler 10,000G Reactors T316L, 100 psi int., 180 psi jkt., agit. (7)
- Pfaudler 15,000G Reactors T316L, 100 psi int., 200 psi jkt., agit. (3)
- Reactors 6000G T316SS, 180 psi jkt., agit. (2)
- Kettles 8000G, T316SS, jkt., agit.
- Pfaudler Reactors 1500G T316L, SS, 180 psi jkt., agit., Atmos Int. (2)
- Brighten 12000G T316L, SS Tank, 12' dia. agit. Dish Heads (5)
- Metal Arts 17,000G T316L, SS tank, agit. (2)
- Modern Welding Tank 4800G, R/L Horizontal
- Modern Welding Tank 7500G Steel, 150 PSI
- Tank 50,000G 19'x24' H Epoxy Lined
- Permutit Mod BD-42 Water Softner 38/78 GPM 2 bed unit (2)
- Sparkler VR-32-32, 350 sq. ft., pres leaf filter (2)
- Smitch Co. model 7412, type BBAAA, return bend HT exch., st. (16)
- Buffalo Mod 45-3 CB Blowers 3420 cfm @ 60/ w/75hp. (4)
- Buffalo size 30 3500 CFM @ 7" SP, 10 HP (4)
- Rennolburg 5'x25' Rot dryers, SS, 10 HP (5)
- Bird 32"x50" T304, 5" sgl. load SS, Contour Bowl, Gear box, Mtrs (4)
- Sweco 60' SS Single Dock screen (3)
- Welex 8" Extruders 30:1 L/D W/700 HP, screen Changer, strand die, water bath, etc (4)
- Witte mod 280 D Pellet Screen (2)
- Welex 6" 30:1 L/D, 400 HP w/Gearbox No Controls
- Conair Pelletizers 6"x24", hyd drives (2)
- Feed Hoppers 5' dia x 13'9", cone bot, T304L (4)
- Hoppers 7' od x 15'H, cone Bot, ST Epoxy Lined (8)
- Hoppers 7' od x 11'6" H cone bot., ST Epoxy Lined (3)
- Environeering wet scrubblers A33-14000 5'6"W x 10' x 7'H, epoxy lined (2)
- Buffalo Blowers 730L-21, 12000 CFM @ 20" w/100HP
- Strong Scott 16 cu.ft. T304 SS, Ribbon mixers 5HP (3)
- Ross static mixers T304SS, 3"x6 element (4)
- K-Tron Feeders model T35 twin screw w/SCR drive (10)
- Hoppers 7' dia x 17'H ST Epoxy lined (2)
- Flotronics Bin Vent FTF3F30-72, SS (7)
- Worthington Mod YBB-2 Vert two-stage compressor CFM @ 125 psig, 75 HP (2)

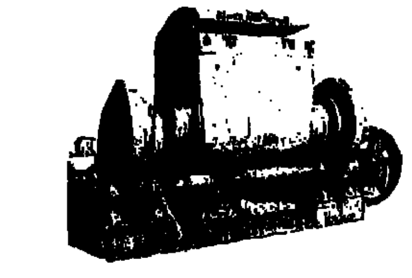
PLUS;
LARGE QUANTITY OF MISC. ITEMS . . . PUMPS TO 40 HP, VALVES, PIPING, ETC FOR THE BEST BUYS IN THE INDUSTRY CALL: (312) 350-2200

PROCESS EQUIPMENT AT BIG DOLLAR SAVINGS!

CALL AARON...NOW!

FILTER-ROTARY VAC.

15828-FE,inc 36" dia.x12", S/S, string disc., 1/2 HP.
17477-FE, inc., 3' dia x 5', T316SS, belt disc., vac pump.
11177-Dorr Oliver S/S, 5' dia x 6'L.
11653-Oliver T-316SS, precoat 5'3"x8'.
19226-Eimco valveless precoat, 6' dia. x 6' face, S/S drum.
19431-K.S. flexibelt, 6' dia. x 6' face, 316SS.
18392-Eimco belt filter, 8'x10', steel drum, w/Nash pumps.
15827-Ametek, 8' dia.x14'0" face, maxi-belt, S/S.
17938-Eimco, 316SS, 10' dia. x 14', knife discharge.
17283-Impco belt filter, 12' dia. x 12', 304SS, Nash vacuum pump.
20251-K.S. T304, vacuum filter, 12' dia x 14', 304SS, flexibelt.
20323-Dorr Oliver 11'6"x16' face, S/S cont. parts.
11486-Eimco 10'x10' rotary vac. filter.



21459-Baker Perkins mod. 18JUMM2, 300 gal. sigma, C/S, jkt. 125 psi, vac. hyd. tilt, 100 HP, 1963. Illinois location. CALL AND SAVE!

DRYER-ROTARY VAC.

19844-Bethlehem Porcupine Processor/Polyester Chip Crystallizer 30" dia. x 18' long, T304 SS, jkt, 20 HP (6) available.
Strong Scott Solidire 24" dia. x 18', S/S, jkt. No mtr.

FILTER PRESSES

19846-Shriver P&F filter press, 12"x12" alum plates, closed delivery, 23 chambers
20534-Sperry Filter Press, 30", alumn
20539-Sperry filter press 30", 35 Aluminum plates, 357 sq
15370-Shriver 32" x 32", polypropylene, 27 plates, ratchet closing.
15929-Shriver ALP, plate & frame, 18 36" x 36", S/S recessed plates.
20076-Sperry filter press, 36", cast iron plates, closed deliv
19462-Independent filter press, 42" x 42", polypropylene, 4 eye closed, 34 chambers
20550-Sperry filter press, 42" Encl closer, 41 alum plates

CENT-BASKET VERT.

20978-Sharples SP6500 Sludge-Pac 48"x30 S/S w/hydro drives
21408-Delaval 22"x16" perf. basket hyd. drive
15815-Delaval Mark III, perf. basket, 40"x24", 316SS, 30 HP, hydr., drive.
19446-Sharples Sludge-Pak, SP-5500, 40"x24" basket centrifuge.
19253-Western States, 48"x30", S/S perf. bsaket, 50HP hydr. drive, reconditioned

PRESSES

UNUSED Manesty Express, 10 ton, 20 stations.
11602-Colton Press mod.260, 31 die stations, 1800 TAB.
21382-FJ Stokes rotary tablet, 15 station, 10 ton.
21418-Manesty rotary tablet, 16 station, 10 ton.
14425-Stokes Tab Press mod.#551, 51 station, 4 ton.
21417-FJ Stokes rotary, 27 station, 4 ton, double sided.
503881-Komerak Greaves, mdl. 75MSS briquetting press. 20.5" dia. x 4.5" face.
13392-Fitzpatrick Chilsonator, 50 HP, mdl HA-50-30-210
18802-Stokes single pucnh press 900-530-1 (T4) 12 ton
17224-Dorst compac., series TPA15, 20 tons
10890-Stokes, mdl. R-4 press, 20 ton.

MIXER/EXTRUDER

17654-AMK 25 gal. Mixtruder, Sigma, ST 7.5 HP.
18298-J.H Day 25 gal Dispersion, 25 HP van main, 10 HP vari screw.
20996-AMK 30 gal. S/S, jkt Sigma, 7.5 HP Main, 6 HP screw
21334-Ross 40 gal., S/S hot oil jkt., Sigma 6" disch. screw.
19826-AMK 50 gal. ST, jkt., Sigma
19421-AMK 75 gal ST, jkt., Sigma, 10" disch. screw.
17138-AMK 120 gal., ST Sigma, 11.5" screw.
14832-AMK 150 gal., S/S, Sigma 15HP main, 10HP screw
19494-AMK 150 gal., S/S Sigma, 50 HP main, 10HP screw
20116-AMK 150 gal., ST, Sigma, 15 HP/10 HP
503527-New Aaron 300 gal., T304SS, mix extruder, Sigma, jkt., up to 200 HP main, 75 HP hyd. screw.
STILL INSTALLED. CALL NOW!

21350-B.P. 500 gal. Sigma steel, jkt. 25 speed, 150 HP, Hyd. tilt

MIXERS – PLOW

503755-Littleford, FKM 600D, SS jacketed, 25 HP.
20754-Littleford, FKM 3000D 65 CF, S/S, full jacket.
19214-New Plow Mixer, 80 cu. ft. 347SS, jacket, 100HP.
20829-Littleford FKM 4200D, S/S, 87 cu. ft. JKT

MIXER RIBBON

21120-Ribbon Blender, S/S, 10 cu. ft., jkt. SS, 150 psi.
20276-Read ribbon blender, 14.7 cu ft. 304SS, 3 HP
20816-Unused Day, 316SS, 23 cu. ft., 5HP.
20189-Robinson, 25 cu. ft., S/S, jacket, 10 HP.
20985-Int'l 34 cu. ft. S/S dbl. ribbon, 5 HP, (4)
20212-Haas ribbon, 36 cu. ft., S/S, 15 HP.
19268-Ribbon Mix 80 cu. ft. T304 SS, 5 HP (4)
19566-Howe, 115 cu. ft., sanitary S/S, double spiral ribbon.
20983-Strong Scott blender, 130 cu. ft., 304SS, 25 XP gear motor.
21124-Ribbon Blender, 304SS jkt., 160 cu. ft., 30 HP.
20814-Unused JH Day ribbon, S/S 270 cu. ft., 25 HP.
21114-JH Day ribbon blender, S/S clad, 75 HP, 480 cu.ft.

SCREENS

21203-Sprout Waldron sifter, D10, 6 decks.
21150-Sprout Waldron, D10, 1 HP, 10 decks, S/S cont.
21187-Sprout Waldron, D10, 2HP, 10 decks, S/S cont.

UNUSED CENTRIFUGES

21593-Sharples P5400 Sanitary Centrifuges w/200 HP motor, 25 HP backdrive, gearbox, 5" pitch conveyor, CIP, control panel (2) LATE MODEL

CALL: Ken Kyte (312) 350-2200

CENTRIFUGES

20827-Bird, 18"x24" steel, conical bowl
20826-Bird, 24"x38" steel, con. bowl, gearbox.
20819-Bird, 24"x38", S/S, 15 degree, contour bowl.
20684-Bird 24"x60", H series, steel w/motor
20364-Bird 32"x 50", SS T316 contour, 75HP.
12883-Bird 36"x96" contour, 10 deg., T317 ELC.
20137-Alfa Laval, NX 418-B31-60, 316SS, gearbox.
17308-Dorr Oliver, 304SS, Merco mdl. 16L, 30 HP.
13565-Sharples, mdl. P 600, gearbox, motor
19767-Unused Sharples, 3 phase, P3000, S/S, carbide
20407-Sharples P2000 316SS, 20 HP drive motor
19768-Unused Sharples P3000, S/S carbide tiles, gear
21359-Sharples P3000 w/gearbox
20686-Sharples P3000, 52 1 gearbox, S/S casting
21725-Sharples P3400 S/S, gearbox & motor
19249-Sharples, P5400, 316/317SS, 200 HP, gearbox

LARGE QUANTITY PRESSURE TANKS

Used 30,000 gal Propane Tanks 9' dia. x 62' lg. dish heads 200 psi ASME (48)
Used 15,000 gal Butane Tanks 9' dia. x 31' lg. dish heads pressure rated (33)

MUST MOVE . . . PRICED TO SELL! Call: (312) 350-2200

REACTORS

20252-Unused Reactor, 800 gal., 304SS dimple jktd.
10138-Pfaudler, 800 gal., T-316 L SS, 55 PSI int/150 PSI.
20909-Brighton reactor, 2000 gal., 316L SS, full dimpl jkt.
20928-Brighton, 4000 gal., 8' dia x 10', 316 ELC S/S
20456-Reactor, 4,000 gal., 316 S/S, 8' dia. x 7'9" st. side
15475-Brighton, 4000 gal., 316SS, vacuum
20287-GH Hicks, 4000 gal., 316 SS, pipe coil jkt
20923-Richmond Eng. Reactor, 4600 gal., T316 stain/clad.
Pfaudler 10,000 gal reactors T316L, 100 psi int, 180 psi
Pfaudler 15,000 gal. reactor T316L, 100 psi int., 200 psi jkt.,

TANKS-S/S

21131-Tank, 950 gal., T304SS, 5'x6' dish bot., flat top, agit.
21283-Tank, S/S vert., 1200 gal., 6' dia x6', flat top & bot.
17474-1000 gal., T316SS, 54" dia.x8'6", 3 HP agitator.
20651-Tank, SS, 9000 gal., agit., 12' dia. x 14'6" H.
20655-Tank, SS, 12000 gal., 12' dia. x 14', flat bottom, open top.
17043-Joe Oat horz. tank, 304SS, 16,000 gal., 12'6" dia. x 22'9½" long, 10 PSI.

DUST COLLECTORS

21125-Fabri-Jet jdl SQ9-4B bin vent, 42 sq. ft
16398-Mikro dust collector, S/S, 63 sq. ft., mdl. 9-6-100, pulse jet.
21153-EVO, bin vent, 72 sq. ft., S/S, 5 HP
20253-Unused EVO pulse jet collector, mdl. 84BF009C, 90 sq. ft.
21192-JH Day mdl. RJ-18RJ36, 125 sq. ft., CS, 3 HP.
21222-Fabri-Jet, mdl. SQ16-60, 151 sq. ft.
20398-Pulse jet collector, "FlexKleen," mdl. 58CT24 AV II w/175 sq. ft., cloth, C.S.
21286-Mikro dust collector, 285 sq. ft., S/S.
20256-Unused EVO Corp. pulse jet dust collector, mdl. 99BF030C, 350 sq. ft.
20255-Unused EVO Corp. dust collector, shaker type, mdl. MS049C10, 575 sq. ft.

NEW ITEMS:

22005-Littleford mod. FKM2000E, 43 cu. ft., S/S
21993 Nauta MBX 980 Mixer, ST, on weigh scales
21994 Nauta MBX 141 0 Mixer, ST, on scales w/drives
20831-Pattenmair, 3.5 cu. ft. mixer, S/S, jkt., 2-speed
21869-Joy mod. WN 112 air compressor.
21866-Perry DJR 1600 gal reactor, T316SS agit.
21867-Pfaudler 300 gal. reactor G/L.
21865-Patterson Paste mixer, 750 gal., C/S, 60 HP. (7)
21850-Sharples P3000, D-Canter, T316.
21796-Sharples P5400, D-Canter, T316 w/gearbox, tiles, 125 HP (2)
21799-Buss 1451 sq. ft., rotary vac dryer.
21803-Henschel 3.5 cu ft., S/S mixer
21786-Baker Perkins Lab Mixer, 5 gal, jkt., 2 HP, disp. blade.
21768-Bird 24"x60" centrifuge, S/S, standard. (2)

AARON EQUIPMENT COMPANY

(312) 350-2200

CALL THE M-TEAM FOR ALL OF YOUR EQUIPMENT NEEDS!

CALL FOR OUR NEW SUMMER CATALOG!

BLENDERS & MIXERS

- Readco Sigma Blade Mixer 10 gal. SS Dual Level (Like New)
- Readco 5 gal. SS jktd. vac. mixer 5 HP
- Ross 10 gal. Planetary Mixer SS
- Baker Perkins 300 gal. Sigma Blade jktd. vac. mixer
- Readco 3 gal. SS Sigma mixer, jktd.
- Patterson Kelly 1500 cu. ft. CS blender 75 HP
- Paul O. Abbe 90 cu.ft. SS/sanit. jktd. vac. blender 50HP
- Nauta Mixer 70 cu.ft. SS 10 HP
- Devine 100 cu.ft. Dble Cone Blender, C/S
- J.H. Day 54 cu. ft. Ribbon Blender (2)
- Baker Perkins 150 gal. C/S jktd vac. flusher

CENTRIFUGES

- Bird Centrifuge CS 40" x 60" Solid Bowl w/drive
- Bird Centrifuge CS 18"x28" Contour Bowl (UNUSED)
- Bird Centrifuge CS various sizes (8)
- Bird 36"x50" 347SS Contour Bowl
- Sharples 12" SS Lab Model/Brighton Lab
- Sharples P-5000 decanter SS 100 HP

DRYERS

- Pfaudler Conical vac. dryer G/L 72 cu. ft. complete system
- D&W Rotary vac. dryer, 316 SS, 2'x 7'
- Gemco SS 1 cu. ft. dble. cone vac. dryer
- Patterson-Kelly 3 cu.ft. twin shell vac dryer SS
- Stokes vac shelf dryers 48.9 sq.ft. (7)
- Pfaudler 2.6 cu.ft. G/L dbl. cone vac. dryer
- Standard Hersey 4'x30' Rotary dryer SS
- Bowen Spray Dryers 7½' & 5' SS
- Aeromatic fluid bed S.S. dryer Model 100ST 20s
- Patterson-Kelley 5 cu.ft. SS Conical jVac Dryer
- Stokes 5'x30' Rotary Vac Dryer, Jktd, SS
- Gemco dbl. cone vac dryer 10 cu. ft. SS
- Reitz rotary vac. dryer SS 3'x5' (complete system)
- Patterson Kelley Twin Shell vac. dryer 75 cu. ft.

FILTERS

- Eimco 4x12 Belt Filter
- Sparkler Filter Mdl #18-D-4 SS jkt./33D12, SS 8-6
- U.S. Autojet filter SS 50 sq. ft.
- Ertel 12" SS filter press
- Hercules Filter 500 sq.ft. 316 SS
- Bird (Pannevis) Filter SS, 12" wide x 17' long
- Sperry 42" Plypro Filter Press 48 Chambers
- Shriver 36" ALP 316-SS, 41,48 Chambers (2)
- Evirex SS Rotary filters 6 x 6

GRINDERS & MILLS

- Ross 3-roll mill 4½ x 10"
- Premier Colloid mill Mdl. XSIF 40HP 316SS
- Fitzmill Mdl. No. D-6/DSAO/12 30HP SS
- Simpson Mueller 6"x5" size 2 VD mixer 20 HP
- Sweco Separator 60"/48"/30"/24"/18" SS & CS
- Greerco Colloid Mill, 3 HP

NEW ARRIVALS

- Patterson Kelley Twin Shell 1 cu. ft. vac. processor SS
- Alpine Seive Model # A-32-100 LS
- Jeffrey Fluid Bed Dryer
- 300 gal. SS Dispersion Tank (50)
- 800 gal. 316 SS Reactor
- 12,000 gal. Fiberglass Tank Like New (2)
- Fitzpatrick Fluid Bed Dryer SS Model # 75 Lab
- Reitz disintegator SS 5 H.P. 865 R.P.M.
- Autoclave 200 gal. SS 116/350
- Funda Filter 4' dia., SS, jktd. w/20 HP Drive
- Aeromatic Fluid Bed Dryer Lab Model # ST-15
- Aeromatic Spray Dryer Lab
- Colloid Mill 5 HP SS
- 2000 gal. Dimple jktd. SS/sanit. Tank
- 150 gal. SS/sanit. reactor 150 psi
- Strong Scott Rotary Vac Dryer, SS, 3x12
- SS Kettles 400, 300, 200, 150 (25)
- Baker Perkins 100 gal. CS jktd. Sigma Blade Mixer
- 500 gal. SS jktd. agit. reactor low pressure (2)
- 150 gal. Sigma Blade Mixer, CS, jktd.
- Reitz Thermoscrew 6" x 10'
- Artisan 1 sq. ft wiped film SS complete system
- Lightnin mixers ½ HP w/shafts & props (20) NEW
- Ross 15 gal. SS jktd. mixtruder 7½ HP Mdl. AMK 15
- Micro Atomizer SS 5HP XP Mdl. #5MA

Henschel high-intensity mixer Model FM 500 14 cu. ft. SS jktd. w/aftercooler (complete system)

RIBBON BLENDER

- Abbe 40 cu. ft. SS clad ribbon blender
- Strong-Scott 200 cu.ft. CS ribbon blender
- J.H. Day 40 cu.ft. Ribbon Blender, S/S (3)

PRESSURE LEAF FILTERS

- 780 sq.ft. U.S. Autojet, Mdl #750, 316 SS
- Pronto Filter SS 30" Dia, 450 psi
- Industrial Filter 100 sq.ft. Type 122 ID 31 Model OMD
- Enzinger leaf filter SS 350 sq.ft.

REACTORS

- 4000 gal. 316 SS reactor w/pipe coil (4)
- Pfaudler 2000 gal. jktd reactor 150 psi/75 psi
- Norwalk 3000 & 750 gal. SS reactor dimple jktd FV/50
- 2500 gal. SS reactor 90/50 psi
- Pfaudler 200 gal. SS reactor
- Pfaudler 9200 gal G/L Reactor 90/90 psi Unused
- Downington 1500 gal. Monel Clad reactor 55/70 psi
- Glascoto 3000 gal G/L Reactor, 90/100 psi
- 13,500 gal. 304 Elc Dim., Jktd. Reactor, 30/100 psi
- Pfaudler 500 gal. G/L jktd. vac reactor

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CENTRIFUGES

Westfalia Model SB-60 SS Desludger (1977)
Bird 40x60 Horiz. Solid Bowl 316 LSS 114:1
Bird 36"x 72" horiz. Solid Bowl Steel
KRAUSE-MAFEI 18.5" pusher S/S (rebuilt)
SHARPLES T-1600 48"x30" Auto S/S
SHARPLES AS-16, 16V SS Clarifier (Rbt.)

DRYERS

P/K 5 cu.ft. S/S LIQ-SOL Processor
Spray Dryer, Bowen 30" lab, Niro 48" utility S/S
Bowen 4'6" # 2 Tower Spray Dryer S/S gas
Abbe 5 cu. ft. S/S dbl. cone w/drive

MIXERS

P/K 10, cu.ft. Tw. Sh. S/S W/L.S. Bar
Readco 5 gal. S/S dbl. arm jkt. Vac. 5HP
300 gal. J.H. Day Pony Mixer steel w/can.
60 cu. ft. Gemco S/S Twp. Sh.
B/P 50 gal. Stl. D/ARM Mixer Jkt. W/Drive
(2) Vrieco 100 cu. ft. S/S Nauta Mixers

FILTERS

FEINC 2x3, 5x7, S/S Rot. Vac. String
SPARKLER 450 sq.ft. S/S Horiz. tank sanl.
Sperry 36x36 poly press 75 chambers
35,50,150,300 sq.ft. Press Leaf S/S & STL
12", 18", 24", 42", P/F Presses C.I. poly or S/S
Niagara 342 Sq.Ft. Filter SS hor. tank
4'x20' Straight Line Filter SS 7.5HP w/access.

SPECIALS

2000 Gal. Pfaudler G/L Reactor 15 HP agit & Baffle
SHARPLES Mark 3 14' S/S perf. Autobasket-Sharples P-3400 SS horiz. Solid bowl
M.G. Homog. 200-M6, 8000 PSI
Simpson 3FS/S Jkt. Mix Muller
S/S TANKS 6000, 12000, 18000, 29,000 gal.
Fitz, D-6 Mill Jkt. Chamber, 7 HP
300 G jkt. SS Groen kettle
(2) 12,000 Gal. FRP Vert. TANKS
Miro-Pulv. 1 SH S/S 5HP w/screw feed.

WE HAVE MANY MORE ITEMS - LET US KNOW WHAT YOU NEED

SPECIALS

Hull 72, Sq. Ft. Lyophilizer Stoppering
Hull 250 Sq. Ft. SS vac. Shelf Dryers
Westfalia centrifuges SAMN 15007 & SAMR 15037
Chemspec 19,000 gal. SS fermenter agit. 120 HP
BP 100 gal. 15 VIM Sigma Mixer 30HP
Oakes SS mixer SMB 3 vari
Sargent SS apron dryer 4'x20'
Raymond 3036 Hiside mills (2)
Shriver 36" ALP filter 316 SS 48 Chambers, plate shifters, hydraulic (2)
Change Can SS Vac. jkt. mixer with (2) 1000 gal. WC kettles 125 HPXP unused
W&P Mixer-Extruder Continua 120 200 HP
FB 24"x66" 4-roll L calendar
FB 2 roll mill 60" & 84"
Banbury mixers # 3 A, 3 D, & # 11 D
APV Paraflow pasteurizer type HX
New England-unscramblers-NEH 120 & 200

MIXERS

Ribbon Blenders SS, jkt., 30 & 200 cu. ft.
Ribbon Blenders 1½, 6, 17.5, 60 & 215 cu. ft.
Atlantic Research cone mixer #8 CV
Day SS Nauta Mixers 62, 71, & 700 cu.ft.
P-K Conical Blenders 5, 15, 20, 60 cu.ft.
Day Pony Mixers SS 50, 60, 125, 175 gal.
Simpson Mullers SS 24", #1F UNUSED & #2
FB Banbury mixers #1, 3D, 9 & 11D

BAKER PERKINS JKT. MIXERS

750 gal. Sigma Bottom 400 HP
100 gal. Dispersion 15 JEM 2, chrome plate 60 HP
100 gal. Sigma DNM bottom 20 HP (3)
100 gal. Sigma JNM Tilt 20 HP
80 gal. Dispersion Mixer-Extruder 100 HP
15 gal. Sigma Tilt 15 HP
5 gal. Sigma AMK SS Mixer-Extruder
5 gal. Sigma Dispersion & Duplex SS (3)
½ gal. Sigma ½ HP Vert

CHOICE—PURCHASE

Day Nauta MBX 980 jkt., 40 & 5HP
Strong Scott 30 cu. ft. SS ribbon blender 50 psi jkt.
Holoflite SS dryer-chiller Model D1612-5
Rex 30"x23' SS fluid Bed Dryer
Rodney Hunt wiped film evap. #6, 120 sq. ft.
2500 gal. reactor 316SS, 75 psi&Vac./150 psi jkt Nat. Board, agitator 50HP
Gaulin SS homogenizers MC18, MF 18&MC 45
300 HP DC-SCR Drive 0-120 RPM
Stokes T&T-4 tablet presses
Abbe SS 2 cu.ft. conical vac. dryer
Carrier 100 ton Freon Water Chiller

REACTORS—TANKS

2,000 gal. SS reactors 150 psi, jkt. agit. (2)
1,000 gal. SS reactors 150 psi, jkt., agit. (2)
Pfaudler 100 & 500 gal G/L reactors
2,150 gal. S.S. 100 psi 8'x8' (4)
80,000 gal. S.S. jkt., agit. (10)

EVAP.—DRY—CENTRIFUGE

Bird 26"x50" Hastelloy C centrifuge
Blaw Knox 1800 & 180 sq.ft. SS Evaporators
LUWA Thin Film 200, 175, 51 & 20 sq.ft.
VAC. oven 42" dia. x 60"L, 30 KW
STOKES Freeze Dryers 24 & 300 sq.ft.
BIRD 24"x38" S.S. Cont. Cent.
Bowen 10'x30' & 20'x60' SS spray dryer

GENERAL

Reitz Prebreaker 300 HP SCR Drive
IR compressor 1000 cfm, 100 psi 200 HP
Raymond 12" screen mill 5HP
ROT. VAC. Filter 10'x18', 8'x8', 4'x8', & 3'x3'
YORK Turbomaster 7000 Ton Refrig.
STOKES Model 540 & 294 Powder Press

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KETTLES–REACTORS, SS

30,000 gal. 304SS fermentors, 14' x 24', 25 psi/vac., coils, 200 HP agit. (4)
15,000 gal. 316LSS reactor, 12'6"x 15'100 psi int., 200 psi jkt., agit. (3)
10,000 gal. Pfaudler 316LSS reactor, 138"x 148", 100 psi int., 150 psi jkt., hyd. agit. (4)
5,000 gal. 304SS, stm. int., 75 psi jkt., agit.
4,100 gal. 304SS kettle, 16 psi jkt., 5 HP agit.
3,500 gal. 316SS kettle, 20 psi jkt., 7½ HP agit. (2)
2,500 gal. 304SS reactor, 75 psi/FV int., 150 psi jkt.
1,500 gal. 304SS kettles, jktd., 5 HP agit. (3)
1,150 gal. 304SS reactor, 15 psi int., 25 psi jkt., 5 HP agit.
900 gal. 304SS reactor, 75 psi/FV int., 150 psi jkt., agit.
600 gal. 304SS reactor, 300 psi int., 75 psi jkt., coils (3)
500 gal. 304SS reactor, 150 psi int., 150 psi jkt., 5 HP agit.
300 gal. 316SS reactor, 75 psi/FV int., 60 psi jkt.
(50)... 316SS and 304SS reactors and kettles from 5 gallon to 400 gallon... call for list.

REACTORS–GLASS

2 gal. Pfaudler, 750 psi/FV, 700 psi jkt.
20 gal. Pfaudler, 35 psi, 100 psi jkt., agit. (2)
30 gal. Pfaudler, jktd.
50 gal. Pfaudler, 25 psi, 100 psi jkt.
50 gal. Pfaudler, 100 psi/vac., 55 psi jkt., agit., 1978
100 gal. Pfaudler, 25 psi, 90 psi jkt., agit.
150 gal. Pfaudler, 25 psi/vac., 90 psi jkt., agit.
200 psi, 100 psi, jkt., agit. 1978
300 gal. Glascote, 25 psi/vac., 90 psi jkt.
600 gal. Pfaudler, 100 psi/vac., 90 psi jkt., vari-drive agit.
500 gal. DeDietrich, 65 psi/vac., 105 psi jkt., 5 HP agit.
750 gal. Pfaudler, 25 psi, 55 psi jkt., 5 TW agit.
1,000 gal. Pfaudler, 100 psi, 90 psi jkt.
1,000 gal. Pfaudler, 75 psi/vac., 90 psi jkt., 10 HP agit.
1,500 gal. DeDietrich, 100 psi/vac., 90 psi jkt., 1981,
1,500 gal. Pfaudler, 100 psi/vac., 90 psi jkt., 25 HP agit.
2,000 gal. Pfaudler, 100 psi/vac., 90 psi jkt., 15 HP agit.
2,500 gal. Pfaudler, 150 psi, 99 psi jkt., 6TW6 agit.
3,750 gal. Pfaudler, 150 psi jkt., polymerizer, agit.
4,000 gal. Pfaudler, 100 psi, 90 psi jkt., agit.
9,000 gal. Pfaudler, 90 psi/vac., 90 psi jkt.

AUTOCLAVES

Autoclave, Urea, 46" x 45' high, 316SS, 3200 psi, multi-wall, jktd.
Autoclave, 7' x 7' Biggs, 100 psi
Autoclave, 72" x 36" high, 316LSS, 2200 psi
Autoclave, 30" x 48' Schneider methanol converter, forged steel, 8195 psi, UNUSED
Sterilizer, 2'2" x 3' American, SS
Sterilizer, 20" x 20" x 36"', SS Amsco
Sterilizer, 2' x 5' Amsco, SS

BINS, HOPPERS

12,000 cu. ft. steel, 27' x 40', bullet bolted
5,800 cu. ft. steel, 12'8" x 48', bolted
1,050 cu. ft. 304SS, 8' x 18', plus cone (3)
450 cu. ft. 304SS, 9', x 5', cone
375 cu. ft. 304SS, 6'6" x 5', 7° cone
270 cu. ft. 304SS, 6' x 14'
95 cu. ft. 304SS, 5' x 4', 4° cone

DUST COLLECTORS

100 sq. ft. Draco, aluminum
185 sq. ft. Draco, aluminum
225 sq. ft. Fuller, 2400 CFM
603 sq. ft. Mikro Pulsaire # 64SA20, SS
765 sq. ft.Carter-Day, 7200 cfm
1130 sq. ft. Mikro Pulsaire, # (F1-48, SS
1460 sq. ft. Carter-Day, SS 12000 CFM
2688 sq. ft. Parsons, 7860 sq. ft.
6000 sq. ft. Standard, 75000 CFM, UNUSED (4)

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DRYERS

Blaw-Knox 6'4"x 40' SS vac. dryer, 600 cu. ft.
Blaw Knox 36"x 20' vac. dryer 316L SS, 72 cu. ft.
Blaw Knox 66"x 36' vac. dryer, nickel
Nathia 24"x48" flaker, chrome plated
Sandvik 48"x24' SS belt flaker, UNUSED
Sargent 60" x 45' SS conveyor dryer
Stokes 6" x 11" drum flaker
Blaw Knox 32" x 90" dbl. drum
Buflovak 42" x 120" dbl. drum, 160 psi
Aeromatic #ST-5 fluid bed dryer, 5/10 KG
Glatt #WSG300 fluid bed, 304 SS, sanit., 1974 (2)
Wittle 36" x 10' fluid bed, SS, sanit.-cooler
Stokes 36 sq. ft. Lyophilizer freeze-dryer
Struthers-Wells 72" dia. pan dryer, jktd.
Renneberg 36" x 20" rotary dryer, 316 SS
Rennsberg 5'x 25' 304SS rot. hot air dryers, w/cyclone, etc. (2)
GATX 304 SS hot air dryer, 8' x 35', 7' x 35', 6' x 35' (3)
96" x 50' Louisville SS rotary dryer
10' x 100' GATX rot. steam tube dryers, 140 psi (4)
Wyssmont #VTL-24 Turbo-tray dryer, 304SS
P-K 5 cu. ft. vac. dryer, 304SS
P-K 20 cu. ft. vac. dryer, 304L SS (2)
Abbe 30 cu. ft. 304SS vac. dryer
Devine 110 cu. ft. 304 SS vac. dryer
Pfaudler 165 cu. ft. glass-steel vac. dryers (2)
Abbe 325 cu. ft. 316SS vac. dryer
Devine 370 cu. ft. 316SS vac. dryer
Devine 564 sq. ft. vac. shelf dryer
Niro 30" SS spray dryer
Turbulaire 48" x 7' spray dryer
Bowen 72" spray dryer, SS
Bowen 96" spray dryer, SS

FILTERS–VACUUM

36" x 1' Amelak, 316SS, 9 sq. ft.
40" x 3' Bird-Young, SS, 48 sq. ft.
4' x 16' Elmco, 316SS, 64 sq. ft., horiz.
6' x 3' Amelak, SS, 55 sq. ft.
6' x 4' Elmco, "Elmcomet" polypropylene, UNUSED
6'x6' x 14'-9" Passevant 200 belt press, 250 sq. ft.,1982 (4)
6' x 6' Elmco, SS, 200 sq. ft., precoat
6' x 10' Dorr–Oliver, 250 sq. ft., 316SS, precoat
8' x 12' Elmco, 316SS, precoat, 300 sq. ft., (3)
6' x 14' Dorr–Oliver, 316SS, precoat, 350 sq. ft. (2)
10' x 10' Elmco, 316SS, precoat, 314 sq. ft.
11'6"x 16' Elmco, SS contacts
12' x 12' Impco, 304 SS, 450 sq. ft.
12' x 14' Komline, 304SS, 525 sq. ft., flexibelt disch. (2)
45' dia. Elmco filling pan, vac. filter, 316 SS

FILTERS–PRESSURE

12 sq. ft. Amatek/Niagara #12, SS
54 sq. ft. Funda, SS, jktd.
65 sq. ft. Artisan "Dynamic" filter/washer, SS (2)
320 sq. ft. Durco, 316L SS
600 sq. ft. U.S. Autojet, 316SS, sanit.
1000 sq. ft. U.S. Autojet #1000, 304SS
13" Horman filter press, 21 plates, SS, sanit.
30" Sperry filter press, 11 cu. ft.
36" Shriver filter press, 548 sq.-ft., hydraulic
42" Shriver filter press, 777 sq. ft., hydraulic
48" Shriver ALP recessed filter press, SS, 276 sq. ft.
48" Clow, polypropylene recessed,1500 sq. ft.

MIXERS, BLENDERS

3.5 cu. ft. Henschel #FM150, 17/20 KW
11.5 cu. ft. Henschel #115JSS, 92/46 HP
13.7 cu. ft. Lodige #W600/K1200, mix/cool comb.
20 cu. ft. P-K twin shell SS
35 cu. ft. Day Nauta, #WBX350, SS
60 cu. ft. Gemco ,TW SH, Sanit. SS
69 cu. ft. Patterson dbl. cone, SS
70 cu. ft. Day Nauta, SS, jktd.
75 cu. ft. Robinson SS ribbon blender, jktd. (2)
96 cu. ft. Day Nauta, SS, 1981
110 cu. ft. J.H. Day, dbl. ribbon, 316SS
160 cu. ft. Pfaudler, dbl. cone, glass steel jktd., vacuum
200 cu. ft. Young, ribbon, SS
316 cu. ft. Sprout-Waldron ribbon blender, SS, jktd.

JUST PURCHASED

3'x10' Stokes 59B Rot. Vac. Dryer, 304SS, 35 cu. ft.
132 cu. ft. Devine Rot. Vac. dbl. cone dryer 304SS
5 sq. ft. Chemetron # 10-30 wiped film evap., 316SS
Unused Mikro 4th, stirrup hammers, 125 HP, (9)
3 cu. ft. Littleford FM130D mixer, SS, jkt., Choppers
42 cu. ft. Littleford FKM2000D, 50 HP, SS Choppers
480 cu. ft. SS dbl. ribbon blender, 6'x16', 75 HP
(2) Fitzpatrick FA150 fluid bed dryers,SS

Over (50) Bird & Sharples decanters

CENTRIFUGES

Sharples P-5400 D-Canter, 316SS. Carbide tiles, late (2)
Sharples P-3400 D-canter. 316SS, tiles (2)
Sharples P-5000 D-canter, 316SS
Sharples P-660 D-canter, 316SS, back drive
Bird 12" x 30", 316SS, Decanter, 20 HP
Bird 18" x 28", 316SS, Decanter (3)
Bird 18" x 42" Decanter, steel, 10/30
Bird 24" x 38" Decanter, 304SS, contour-10
Bird 24" x 38" Decanter, 316SS, contour (3)
Bird 24" x 60" Decanter, steel
Bird 24" x 86" Decanter, SS, 125 HP
Bird 32" x 50" Decanter, Monel, contour (2)
Bird 32" x 50" Decanter, 304SS, contour
Bird 36" x 96" Decanter, 316SS, contour
DeLaval NX214-31B Decanter, 304SS, 20 HP (2)
Sharples AS16V "Super," SS (5)
Sharples AS26V "Super," SS
DeLaval BRPX-213-30, 316SS separator/desludgers (3)
Westfalia SAMN15007, SS clarifier
Westfalia SAMN15037, Desludger/Seperator, 316SS
Westfalia SAMN50336 clarifier, 316SS
Westfalia SA14-35-076 3-way separator, 316SS
Krupp 10" pusher, 316SS, 15 HP
Baker-Perkins 19" pusher, 304SS, 40 HP
Podbielniak extractor; #6500, 7000, 9500, SS contacts, (3)
Sharples 48" T-1600 auto-basket, 100 HP
Tolhurst 48" Batchmaster, rubber lined, 30 HP
Sharples 48" Tornado-Matic, SS, 25 HP
Delaval 48" Mark 111, 316SS hyd.
CENTRIFUGE PARTS... Sharples, Bird, DeLaval, etc.

EVAPORATORS

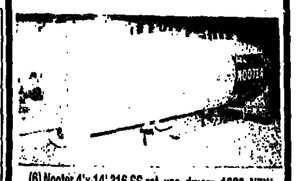
21 sq. ft. Rodney-Hunt Turbafilm #4, SS
87 sq. ft. Rodney-Hunt, 304 SS, Turbafilm
100 sq. ft. Pfaudler, 316L SS, wiped film
600 sq. ft. Goslin-Birmingham dbl. effect, SS
854 sq. ft. Buflovak dbl. effect, SS
1415 sq. ft. Vulcan, 316SS
1686 sq. ft. Roger dbl. effect, SS
Swenson 316SS continuous crystallizer, 9" x 14'

TANKS & VESSELS

30,000 gal., 304SS, 14' x 24', coils, 200 HP agit. (4)
30,000 gal. steel propane tanks, horiz. 250 psi (5)
20,000 gal., 304SS, 12' x 24' (2)
17,000 gal., 304SS, 11' x 24' (3)
10,500 gal., 316L SS, 8' x 25'
10,400 gal., 304SS, 10'6" x 16', agit.
8,000 gal., 304SS, 10'6" x 12'
5,000 gal., 304SS, 5'x3', 25 HP agit.
3,500 gal., 304SS, 6'x9'
3,000 gal., 304SS, 7'x 10', agit.

PULVERIZERS

Mikro #SMA atomizer, 5 HP
Mikro #SMA atomizer, SS
Mikro #2DH pulv., SS, 5 HP
Pallman #REFB pulv., 100 HP
Pallman #PP6 pulv., 50/75 HP
Abbe porcelain pebble mills... 36"x42", 36"x48", 42"x60", 48"x60", 60"x48" (7)
Raymond 50" S-roller hi-side mill, 1981, UNUSED
Raymond #6058 Hi-side roller mills, dbl. whizzer (2)
Raymond #73612 Hi-side roller mill, dbl. whizzer



(6) Nooter 4'x 14' 316 SS rot. vac. dryers, 1982, NEW

LIQUIDATION

NEW & UNUSED PROCESS EQUIP., 1982, IN ORIGINAL PACKING ... SOUTH CAROLINA, CALL! Phone (609) 267-1600

BALERS, Dispozapak #D600 balers, (2)
BAG PACKER, Howe-Richardson #G-S-17 semi-automatic bagging system SS contacts, heat sealed closer, etc.
BINS, 304L SS contacts, 1300 cu. ft./9720 gal., 11'6" x 11'6" x 19" high, steel reinforced (2)
CENTRIFUGE, Bird 24" x 96", 304SS, Model 15 solid bowl continuous, 10 deg. contour bowl, Tungsten carbide tiles on conveyor, 150 HP, 2900 RPM bowl speed (3)
CHLORINATION SYSTEM, Wallace & Tiernan #V800 floor mounted modular chlorinator
COLUMN, 46" dia. x 15'9", 304SS wash columns, designed for agitation (2)
CYCLONE, DuCon Model 700/175 304SS high efficiency cyclones, size 210, Type VM (8)
DRYERS, Nooter 4' x 14' rotary vac. dryer, 316L SS shell and jacket, incoloy ribbon agit. ASME 100 psi/FV int. & jacket. 100 HP packaged Reliance drive with freq. converter. Mech. seals, (5)
FEEDERS, Acrison gravimetric weigh feeders, Model 403-15,000-3,000-BDF-4, 304 SS contacts, Model BDF-4 volumetric feeder, Size "R" metering, auger and disc. cylinder, etc., etc... all SS contacts
FURNACE, C-E Air Co. "Car-Pak" thermal oxidizers, direct gas fired 8'x2" W x 7'9" H x 12'6" L (4)
MIXER, Air mix blender system, Koppers-Spout Waldron #36–50, 500 cu. ft., 304SS, 9' x 19'10" w/483 sq. ft. dust collector (2)
MIXERS, Wabb, 59" W x 15'L twin shaft paddle mixers on pug mills, 304SS contacts, twin 15 drive, (2)
PACKAGING SYSTEM, design to fill bags, palletize, shrink wrap, etc. automated system.
PULVERIZERS, Mikro #4TH pulverizers, 125 HP drive, (15)
PULVERIZERS, Mikro #4MP pulverizers, 125 HP drive (5)
PULVERIZERS, Mikro #1SCB, 7½ HP, with airlock & 304SS disc. chute
PUMPS, Abie #H18–57–45 triplex pump, 90 GPM @ 1500 psi, 50 HP
PUMPS, Peabody #14DOH–2 cooling tower pumps, 2000 GPM at 140' head, 100 HP
SHRINK WRAPPERS, CTX Prod. #P88V4X44 shrink wraps with oven

PNEUMATIC TRANSFER BLOWER PACKAGES

(30) Roots "Whispair" positive blower packaged by Flo-Tronics, for pneumatic transfer...150, 100, 60, 40, 25, 20, 10, 7½ HP sizes...ALL NEW!

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CBA–4, 3000 hp Drivers (3 Available)
CRA–2, 900 hp Drivers (2 Available)
RA–1, 350 hp Drivers (2 Available)
CMA–4, 400 hp Drivers (1 Available)

CYLINDERS

*Six 10¼ x 17, Lined from 12¼ cast steel, 2000 PSI
Three 7⅛ x 17, forged steel
Three 5⅞ x 17, forged steel
Two 18 x 14
Two 29 x 14
Four 10½ x 8

CENTRIFUGALS

3M5/2M7, 2500 hp Driver
2M-10, 4000 hp Driver

***ATTENTION HBA FANS**

Our Inventory includes many other cylinders compatible with these frames, other frames compatible with these cylinders, and other drivers for Reciprocating and Centrifugals. Call Jack Burch.

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NEW ARRIVALS

12"x30" BIRD Centrifuge, 316 Stainless with 20 HP motor. (Ref #23692).

18"x28" BIRD Centrifuge, 316 Stainless 10 deg Bowl, 80:1, with 15 HP motor. (Ref #23693).

24"x38" BIRD Centrifuge, 316 Stainless 15/3 deg Bowl, 40:1, with 40 HP motor. (Ref #23694).

500 HP CLEAVER BROOKS BOILER, gas-fired, 17,250 PPH, 150 PSI, New 1971. (Ref #23695).

UNUSED 500 HP CLEAVER BROOKS BOILER, gas-fired, Series 700, 17,250 PPH, New 1975. (Ref #23696)

ALSO AVAILABLE

HEIL Rotary Dryer, Model 105-32, 3-pass, 10'6" Dia X 32' with 100 HP HEIL BLOWER ASSEMBLY. (Ref #20104).

(4) BELIOTT DEWATERING PRESSES, Model 2919 36" X 56", 304 Stainless, driven by 10 HP motors. (Ref #20106A & #20106B).

WESTERN STATES 48"x 30", perf., 316 S/S, 50HP Hyd.
SHARPLES 30"x18", S/S, Solid Bowl, 25 HP
CHICAGO BOILER 16 P&3 gal. Sand Mills
PADDLE BLENDER 113 cu. ft., C/S, 15 HP
6-CHERRY-BURRELL granulator, model 542, S/S
2-SONIC TRI - HOMO Colloid Mill, 316 S/S, 40 HP
EXPERT 75 gal. Reactor, 304 S/S, 275/15 PSI, 3 HP XP VS
HOCKMEYER 10 HP XP VS Disperser
KALIX KX-60 Tube Filler, Metal Tubes
2-STANDARD METAL J-600 bottle cleaners
MIKRO-PULVERIZER 316, 30 HP
PATTERSON 50 gal., 316 S/S, 100/30 psi, 2 HP

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Tanks: 250-1600 Gal. storage & mixing, S/S & fiberglass
6000 Gal. 304 S/S storage tank, vertical, closed, dished hds.
(2) Richmond 3000 Gal. S/S Reactors, 60/40 PSI, 50 HP 3-Spd.
Richmond 3000 Gal. S/S Reactor, 60/40 PSI, 20 HP.
(3) Pfaudler 30 Gal. S/S Reactors, 66/90 PSI, 1½ HP XP V/S.
Hercules 500 Sp. Ft. "Roto-Jet" Filter, 316 S/S, 60 PSI.
Jacobsen KDSF-11 "Universal" Hammer Mill, 100 HP.
(2) Entoleter Type EIM "Centrimil", 48" Dia., 316 S/S, 150 HP.
Simpson "Rotex" model 561 Sifter, 316 S/S, single deck.
Fitzmill, 316 S/S, No. DKA3012, 20 HP.
Holo-Flite Screw Dryer, 16" Dia. x 20' L., C/S, Jkt. trough.
Chromalox 200 KW Hot Oil Unit.
Sterling 12 KW Hot Oil Unit.
Chromalox 20 KW Hot Oil Unit (All XP) & 15 KW.
Hockmeyer 40 HP Disperser, High-speed, S/S, XP, V/S.
Scholl 50 HP V/S Disperser, XP, S/S, High-speed.
(3) Sussmeyer model 888 Sand Mills, 30 HP XP.
Morehouse-Cowles 12-30 & 10-25 Sand Mills, 40 & 25 HP XP.
Patterson Steel Ball Mills, 6'x8' & 6'x5' Steel Ball Mills.
Abbe 6'dx13' Continuous Steel Ball Mill, 60 HP.
Patterson & Abbe Ceramic-Lined Pebble Mills from 15"x21"+up.
Reliable 8"x12" Two Roll Mill, 5 HP.
Eemco 6"x12" Two Roll Mill, 5 HP V/S.
35 Cu. Ft. C/S heavy-duty ribbon blender, 10 HP XP.
(2) Lasch 5/0 sanitary ribbon blenders, 12.25 Cu. Ft., 2 HP.
J.H. Day "Nauta" Blenders, 31, 35 & 141 Cu. Ft. sizes.
Votator: (2) 4"x46" L. Tubes, 316 S/S, 15 HP.
Dorr-Oliver "Web-Trol" 6'x6' Rot. Vac. Filter, 316 S/S.
Crandall 8-Cal. subsurface weigh-type filter, S/S, model P-2.
Turbo-Flex 1.13 Sq. Ft. Lab evaporator, 316 S/S, 1 HP complete.
Nichols/Niro 10 ft. Dia. Spray Dryer, 120 # /hr., SS S/S.
Baker-Perkins & Readco dbl. arm mixers; 2/cs360 gal., C/S, S/S
Patterson-Kelly 6 cu. ft. V-Blender, S/S, 10B # /c.i.

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TOP LOAD , STAINLESS

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CENTRIFUGE-48" x 30" Western States Perf., S.S. 316
CENTRIFUGE- #5500 Peddinghaus S.S. 316 PUP Series
COLUMN-36" x 20' Pfaudler Glass Packed
COLUMN-24" x 70' Pfaudler Glass Packed
COMPRESSOR-900 CFM @ 125 PSI Clark ICA 6-150 HP
COMPRESSOR 400 CFM @ 150 PSI Fuller C-80-80H, 100 HP
DRYER-5 cu. ft. P.K. Conical Vacuum Stainless
EVAPORATOR-6.54 sq. ft. Rodney Hunt S.S. 316 System
EVAPORATOR-1 sq. ft. Rodney Hunt S.S. 316 w/Condenser
EXCHANGER-358 sq. ft. 304 S.S. 150/150 PSI UNUSED (4)
EXCHANGER-275 sq. ft. 304 S.S. 175/175 PSI UNUSED (2)
EXCHANGER-175 sq. ft. 316 S.S. 150/150 PSI Code
EXTRUCTOR-6" Rietz S.S. 304, 5HP Van XP
HOMOGENIZER-420 GPH @ 8000 PSI Manton Gaulin Stainless
MILL-2TI Mikro Pulverizer Steel, 15 HP
MILL-SH Mikro Pulverizer Steel, 1 HP
PROCESSOR-10 cu. ft. P.K. V-Type S.S. Jkt. Vac. 550 # (3)
PROCESSOR-5 cu. ft. P.K. V-Type S.S. Jkt. Vac. 550 #
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TANK-10,000 gal. Horizontal, S.S. Clad
TANK-4200 gal. Vertical 304 S.S. 25 PSI UNUSED
TANK-4000 gal. Vertical 304 S.S. 25 PSI UNUSED
VACUUM PUMP-150 CFM @ 26" Nash H-6, 25 HP
VACUUM PUMP-80 CFM @ 1 MM Stokes 149 H-10, 3 HP
VERSATOR-D-8 Comeil S.S. 316, 1½ HP Van XP

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NEW ACQUISITIONS

700 gal. Readco jktd. Sigma mixer, 400 HP
2 cu. ft. PK SS Twin Shell w/bar
23 cu. ft. SS Day double ribbon, 7½ HP
18"x28" 316 SS Bird Solid Bowl Centrif.
3TH Mikro Pulverizer 30 HP
8T8-100 Aeromatic SS Fluid Bed Dryer
300 gal. Pfaudler G/L 25/90 psi, 3TW
Unused 70 cu. ft. Titanium dble cone vac Dryer
100 gal. DeDietrich G/L reactor, 25/90 psi mech. seal, 2HP
SS Ht. Exch.; 246,200, 125, 56, sp. ft.
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7 gal. S-P Dispersion jktd., ram, 25 HP
2½ gal. Day SS Sigma jktd., vac., 10 HP
.75 gal. Read 316 SS Sigma jktd.,vac. 1 HP
SS Littleford mixers w/choppers
FKM 2000 D, 1200 D, 600 D, 300 D, (5)
SS Twin Shell 40, 30, 20, 3 cu. ft.

REACTORS

2000, 1000, 750, 300 gal. G/L, mech. seals (7)
3000 gal. 316 SS 100/150 psi vert. agit.
3000 gal,304 SS, 25/125 psi, ½pipe coil jktd., agit New 1974
2000 gal. 316 SS, 75/180 psi, agit.
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24 more in stock from 10 to 300 gals., 304 & 316 SS. Call Now.

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69 cu. ft. SS Patt. cone, w/liquid bar Ribbon/Paddle; 650, 200, 120, 70, 40, 23 cu. ft. (26)
Conical: 320, 200, 150, 130, 100, 75, 69, 40, 30, 20, 10, 5, 2 cu. ft. (18)
Twin Shell: 200, 100, 75, 40, 30, 20, 3 cu. ft. some with intensifiers (12)

MIXERS

Double Arm: 1000, 500, 300, 200, 150, 10, 7, 2½, .75 gal. Sigma, jktd.
Pony: 125, 75, 100, 80, 60, 50 gal. (12)
Planetary: 100, 85, gal. vacuum
Dispersers: 75, 50, 40, 25; 20,15 HP (6)
Littleford: FKM 2000D, FKM 600D, FKM 300 D, FKM 130D, jktd. & choppers (4)

MISCELLANEOUS

Vac. Pumps: NASH: CL 2003, CL 1003, AT 2004, L5, MD 674 KINNEY: KDH 150, KD 30, KS 27, Stokes: 212 H 10.
Tablet Presses: STOKES, MANESTY, COLTON. All Sizes

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42" Shriver poly, 50 ch., 4 eye
48" poly chambers, 1½" cake, 4 eye (150)
SS filter presses: 18", 16",13",12"(7)
Sparklers: 33S9, 18D10,8-6

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48"x30", 40"x24", 316 SS auto-batch
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Westphalia: SAMN 5036, SA 1435-076
HS36, H824, S8, 316 SS B-P "Ter Meer"

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Chilsonator system, all SS, 4LX10D
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Mikro: 4TH, 3TH, 2DH, 2SCB, 1SH, SMA
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Raymond: 5058, 5057, 5047, 4237, 3036

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CMR MARKETPLACE

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(2) K/G briquetting presses, model 150MS-20.5-9.2, hydraulic roll force, variable speed feeder, discharge conveyor, complete system.

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(2) Blaw Knox designed double drum dryers, 18" x 48" & 36" x 120", chrome plated, each w/-vacuum chambers & vacuum pump package. Excellent condition. Ready to Ship.

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Model N-22, 8' dia trays 22 high, with stainless steel contact parts. May be shipped in one piece. Steam heated.

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Louisville stainless steel steam tube dryer, 8' dia x 40', stainless steel clad shell w/stainless steel steam tubes.

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Roto-Louvre mdl 900-32, 9' dia x 32' long, steam heated, 30 HP motor, all fans & Flex-Clean dust collector.

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Titanium contact parts, 8000 lbs p/hr capacity. New 1976. Complete and still installed.

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(3) Raymond high side roller mills, model 5057, double whizzer separator, fan; feeder, cyclone, duct work & bucket elevator.

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(2) Model P8100 Sharples Super Decanter, 316 S/ST, carbide tiles, 250 HP main drive, 126:1 gearbox w/backdrive. New 1979. Complete. Excellent Condition.

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Jeffrey fluid bed dryer, 5' x 20', 304 sanitary construction, complete installation including fans, dust collector, S/ST scrubber & controls.

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(1) 8500 gallon 316 S/Tt reactor, 30 PSI/full vacuum internal, 15 PSI jacket, 45 PSI 316 S/ST coils, 10/15 HP 2 speed turbine agitator, S/ST overhead condenser. New 1977. Still installed. Excellent condition.

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CHEMICAL IMPORTS

Continued from Page 31

L ARGININ HCL Francesco Parisi 20 dms (2425 lbs) (Alexandra) Bremen, 6/16.
L-EPHEDRINE HCL Ganes Chemical 140 ctn (8951 lbs) (Oriental Patriot) Hong Kong, 6/23.
L-LYSINE HCL Kyowa Hakko 190 dms (23457 lbs) (Regina Maersk) Kobe, 7/10.
L-ORNITHINE Kyowa Hakko 100 dms (12346 lbs) (Laust Maersk) Kobe, 6/19.
L-TRYPTOPHAN Mitrans 20 dms (2557 lbs) (Oriental Patriot) Yokohama, 6/23.
Showa Denko America 23 dms (2941 lbs) (Oriental Freedom) Yokohama, 6/13.
20 dms (2557 lbs) (Oriental Legend) Kobe, 6/17.
20 dms (2557 lbs) (Oriental Legend) Yokohama, 6/17.
LAUREL LEAVES Herbert Marmorek & Sons 240 bgs (13228 lbs) (Valiant) Izmir, 6/21.
177 bls (22046 lbs) (Valiant) Izmir, 6/21.
Louis Furth 586 bls (71303 lbs) (Valiant) Izmir, 6/21.
270 mlx (7308 lbs) (Valiant) Izmir, 6/21.
Ludwig Mueller 100 bls (11604 lbs) (Valiant) Izmir, 6/21.
Order 100 bls (11329 lbs) (Valiant) Izmir, 6/21.
LINYL ACETATE Order 79 dms (33,614 lbs) (Atlntic Star) Le Havre, 6/18.
LINSEED OIL BASF Inmont 16 bgs (917 lbs) (Regina Maersk) Hong Kong, 7/10.
LITHIUM ALKYLS Fluka Chemical 1 pbx (37 lbs) (Sea Land Express) Rotterdam, 6/19.
LITHIUM CARBONATE Chicago Vitreous 600 bgs (31065 lbs) (Aconcagua) Antofagasta, 6/15
LOCUST BEAN GUM Janel Intl Fwdrs 800 bgs (40706 lbs) (Zim Keelung) Cadiz, 6/16.

M-N

M-AMINOACETOPHENONE Jacky Maeder 45 dms (10814 lbs) (Kazimierz Pulaski) LeHavre, 6/30.
M-PHENYLENEDIAMINE Janel Intl Fwdrs 137 dms (41982 lbs) (Nurnberg Express) Antwerp, 6/17
MAGNESIUM CHLORIDE Potash Import & Chemical 420 bgs (42278 lbs) (Numberg Express) Bremerhaven, 6/17.
MAGNESIUM SULFATE Potash Import & Chemical 420 bgs (42371 lbs) (Sea Land Express) Bremerhaven, 6/19.
MALEIC ANHYDRIDE Huels 720 bgs (41041 lbs) (Falmouth Bay) Rotterdam, 6/16.
MENTHOL CRYSTALS American Shpg 62 dms (6964 lbs) (Bacol Santos) Santos, 6/9.
Irving R Boody 189 dms (21546 lbs) (Chao Ho) SHanghai, 6/17.
MERCURICY CHLORIDE Aakash Chemicals & Dyestuffs 10 dms (0 lbs) (Pilar) Valencia, 6/16.
3-METHOXYPROPYLAMINE Order 2 tnk (79,454 lbs) (Ever Guard) Hamburg, 6/15.
METHYL 12-HYDROXY STEARATE Order of Shipper 1 tnk (39683 lbs) (American Georgia) Santos, 6/19.
4-METHYLENE-2-ISOBUTENYLTETRAHYDROFURAN Haniel Phoenix Transport 13 brl (0 lbs) (Sea Land Express) Bremerhaven, 6/19
METHYL ETHYL KETONE American Fuji Seal 6 cs (489 lbs) (Barber Taif) Yokohama, 6/16.
METHYL ISOBUTYL KETONE Order of Shipper 1 bks (1315339 lbs) (Universal Frontie) Kobe, 7/2.
METHYL METHACRYLATE Surface Air Intl 1 tnk (39903 lbs) (Ever Guard) Felixstowe, 6/15.
METHYL CARBAMATE Order 360 dms (39286 lbs) (Atlantic Conveyor) Gothenburg, 6/20.
METHYLCELLULOE Henkel 1320 bgs (67223 lbs) (Wladyslaw Sikorski) Rotterdam, 7/8.
MICROCRYSTALLINE WAX Panalpina 220 mlx (76103 lbs) (Oriental Legend) Kobe, 6/17.
MOLYBDANUM TRIOXIDE Dynamit Nobel 1 dms (117 lbs) (Atlantic Star) Rotterdam, 6/18.
MONOSODIUM GLUTAMATE MLM Express 1540 bgs (79105 lbs) (Ever Going) Busan, 6/16.
SODIUM FORMATE Kingsley & Keith 800 sks (45892 lbs) (Sea Land Pioneer) Algeciras, 6/17.
N-BUTYL METHACRYLATE Surface Air Intl 1 tnk (39396 lbs) (Ever Guard) Felixstowe, 6/15.
N-CHLOROSUCCINIMIDE Rhone Poulenc 20 dms (4277 lbs) (Nedlloyd Rotterdam) Marseille, 6/17.
N-HEXANE American Fuji Seal 5 cs (375 lbs) (Barber Taif) Yokohama, 6/16.
N-METHYLGLUCAMINE Rhone Poulenc 560 dms (34568 lbs) (Atlantic Star) LeHavre, 6/18.
1,2-NAPHTOQUINONE 2-DIAZIDO-5 20 ctn (57,540 lbs) (Oriental Legend) Yokohama, 6/17.
2-NAPHTHOL Encore Intl Shpg 1,080 bgs (60,119 lbs) (Oriental Patriot) Hong Kong, 6/23.
3,3-DIMETHYLDIPHENYL 4,4-DI-ISODISOGRIN 200 dms (23,810 lbs) (New York Maru) Tokyo, 6/19.
NICKEL SULFATE Minmetals 720 bgs (40001 lbs) (Chao He) Hsinkang, 6/17.
NITROCELLULOSE Upaco Adhesives 106 dms (35942 lbs) (Sea Land Pioneer) Marseille, 6/17.
NUTMEG Gel Spice 859 bgs (43367 lbs) (Jebel Ali) Fos, 6/19.
Leyden Customs Expediters 520 bgs (57320 lbs) (Alexandra) Rotterdam, 6/16.
NUTMEG OIL Bush Boake Allen 6 dms (2476 lbs) (Prosperity) Padang, 6/23.
Fritzsche Dodge & Olcott 12 dms (4971 lbs) (Prosperity) Padang, 6/23.
Order 12 dms (465 lbs) (Prosperity) Padang, 6/23.
Leyden Customs Expediters 520 bgs 957320 lbs) (Alexandra) Rotterdam, 6/16.

O-Y

OLEORESIN BLACK PEPPER Inter Maritime Fwdg 150 ctn (7374 lbs) (Banggloar Mamata) Cochin, 6/17.
MJI 15 dms (3671 lbs) (Banglar Mamata) Cochin, 6/17.
Griffith Laboratories 8 dms (3898 lbs) (Pilar) Valencia, 6/16.
OLEORESIN CAPSICUM Ungerer 59 ctn (2471 lbs) (Banglar Mamata) Cochin, 6/17.
OLIBANUM GUM Little Store 46 cs (5,679 lbs) (Sea Land Express) Rotterdam, 6/19.
ORGANIC PIGMENTS Dainichiseika Color & Chemic 25 ctn (2756 lbs) (Regina Maersk) Tokyo, 7/10.
ORTHO-ANISIDINE Order 70 dms (34337 lbs) (Chao He) Shanghai, 6/17.
ORTHO-NITROCHLOROBENZENE Upjohn 2 tnk (83334 lbs) (Atlantic Star) Le Havre, 6/16.
OSSEINE Order 2280 bgs (206088 lbs) (Jebel Ali) Dubai, 6/19
OXALIC ACID Advance 1520 bgs (76761 lbs) (Chao He Hsinkang, 6/17.
Blink Lock 1280 bgs (149500 lbs) (Chao He) Shanghai, 6/17.
Mineral & Chemical Trdg 1280 bgs (71959 lbs) (Chao Ho) Shanghai, 6/17
OXIDISING SUBSTANCE IMCO 5 UN 14 Autotype 20 cs (331 lbs) (Atlantic Convoyor) Liverpool, 6/20.
OXYNITROPHENYLARSENIC ACID Rhone Poulenc 400 dms (48,832 lbs) (Arild Maersk) Marseille, 6/18.
PARAFFIN WAX Panalpina 240 mlx (152,206 lbs) (Oriental Legend) Kobe, 6/17.
120 ctn (1,814 lbs) (Oriental Patriot) Kobe, 6/23
POLYVINYL ALCOHOL Maruhoni America 400 bgs (18,042 lbs) (New York Mru) Kobe, 6/19.
P-METHYL BENZOYL CHLORIDE Dynamit Nobel 76 brl (37615 lbs) (Windysinw Sikorsk) Rotterdam, 7/8.
PVC RESIN Toknor Apox 50 bgs (2877 lbs) (Regina Maersk) Kobe, 7/10
PALMKERNEL OIL Order of Shipper 1 bks (1058764 lbs) (Stolt Falcon) Belawan Deli, 6/25.
2 bks (2219530 lbs) (Stolt Falcon) Pasir Gudang, 6/25.
PALM OIL Sands African Imports 72 dms (29365 lbs) (Tana) Tema, 6/19.
PALMAROSA OIL K line 3 dms (2623 lbs) (Oriental Legend) Singapore, 6/17.
PALMITIC ACID Mitsui 1 bgs (46 lbs) (Laust Maersk) Kobe, 6/19
PAPRIKA Griffith Laboratories 850 bgs (43287 lbs) (Pilar) Valencia, 6/16.
850 bgs (43288 lbs) (Sea Land Pinoeer) Algeciras, 6/17.
PARA-AMINOPHENYL Person 20 bgs (1894 lbs) (Jebel Ali) Dubai, 6/19.
PARA-ANISIDINE Order 200 dms (24471 lbs) (Chao He) Shanghai, 6/17.
PARA-TOLUENESULFONYL CHLORIDE Ramiff Chemicals 60 dms (7238 lbs) (Jebel Ali) Dubai, 6/19.
PARAFFIN WAX Dura Commodities 18 plt (0 lbs) (Atlantic Conveyor) Liverpool, 6/20.
PARAFORMALDEHYDE T R America Chemicals 1600 bgs (47091 lbs) (Sea Land Pioneer) Algeciras, 6/17.
PENTAERYTHRITOL Degussa 881 bgs (44438 lbs) (Numberg Express) Bremerhaven, 6/17.
Klockner Chemical 700 bgs (39932 lbs) (Aconcagua) Valparaiso, 6/15.
PERCHLORIC ACID M G Transport Warehouse 1 pkg (24 lbs) (American Envoy) Bremerhavn, 6/21.
PERFLUOROPROPANE Order 3 cyl (869 lbs) (New Yarok Maru) Tokyo, 6/19.
PHENOLIC RESIN Lassen Intl Fwdrs 2 pbx (4580 lbs) (Nurnberg Express) Bremerhaven, 6/17.
PHOSPHORIC ANHYDRIDE Order 595 dms (40926 lbs) (Zim Keelung) Barcelona, 6/16.
PIPERONYL BUTOXIDE Fairfield American 76 dms (38704 lbs) (Ever Superb) Leghorn, 6/21.
POLYAMIDE POWDER Jacky Maeder 5 plt (10273 lbs) (Numberg Express) Bremerhaven, 6/17.
POLYCHLOROTRIFLUOROETHYLENE Nichimen 18 dms (2132 lbs) (Lausl Maersk) Kobe, 6/19.
POLYESTER Order 20 con (867036 lbs) (Arturo Gomoz J) Cartagena, 6/24.
POLYETHYLENE LEP Transport 8910 bgs (578686 lbs) (Saudi Makkah) Jeddah, 6/14.
POLYTETRAFLUOROETHYLENE Heemsoth Kerner 179 dms (21704 lbs) (New York Maru) Tokyo, 6/19.
Sumitomo of America 120 dms (14815 lbs) (Lausl Maersk) Kobe, 6/19.
Montedison 220 dms (26456 lbs) (Zim Keelung) Leghorn, 6/16.
POLYTETRAHYDROFURAN Order 3 tnk (119313 lbs) (Ever Guard) Hamburg, 6/15.
POLYVINYL ALCOHOL Inter Maritime Fwdg 80 pkg (85010 lbs) (New York Maru) Kobe, 6/19.
Perry Chemical 750 bgs (37500 lbs) (Ever GOing) Keelung, 6/16.
POLYVINYL CHLORIDE Viking Sea Freight 590 dms (72988 lbs) (New York Maru) Tokyo, 6/19.
Tarkett 759 bgs (43431 lbs) (Ever Guard) Hamburg, 6/15.
POPPY SEEDS Bedemco Imports & Exports 10 bgs (1102 lbs) (Valiant) Izmir, 6/21.
POTASSIUM BIFLUORIDE Kali Chemie 80 bgs (4638 lbs) (Atlantic Star) Bremerhaven, 6/18.
POTASSIUM CARBONATE Intl Oriental Foods 80 ctn (0 lbs) (Ever Going) Hong Kong, 6/16.
POTASSIUM FERROCYANIDE Degussa 720 bgs (39857 lbs) (Numberg Express) Antwerp, 6/17.
POTASSIUM PENICILLIN G Beecham 677 ctn (38380 lbs) (Atlantic Conveyor) Liverpool, 6/20.
POTASSIUM PERCHLORATE Nu Tech Chemical Ind 150 dms (41667 lbs) (Atlantic Conveyor) Gothenburg, 6/20.
POTASSIUM SORBATE Order 390 dms (42320 lbs) (Kazimierz Pulaski) Bermerhaven, 6/30.
PROPARGYL ALCOHOL Order 1 tnk (39683 lbs) (Kaz14,6
(American Georgia) Buenos Aires, 6/19.
RIBOFLAVIN Amalgamated Metals 40 dms (3086 lbs) (Chao He) Hong Kong, 6/17.
RICE BRAN OIL Order 16 dms (7161 lbs) (Regina Maersk) Tokyo, 7/10.
RUTIN Mitrans 20 dms (2425 lbs) (Oriental Freedom) Kobe, 6/13.
Pat Brown Lumber 1665 sht (33089 lbs) (American Entente) Rotterdam, 6/12.
SALICYLIC ACID Rhone Poulenc 640 dms (175621 lbs) (Nedlloyd Rotterdam) Marseille, 6/17.
SARSAPARILLA ROOTS Max Van Pels 19 bls (2284 lbs) (Polwind) Vera Cruz, 6/23.
SELENIUM METAL Sassoon Metals 100 ctn (6009 lbs) (New York Maru) Tokyo, 6/19.
SESAME OIL Dosanko Foods 27 ctn (1071 lbs) (Laust Maersk) Tokyo, 6/19.
SESAME POWDER Cheung Kong Trdg 15 ctn (0 lbs) (Laust Maersk) Hong Kong, 6/19.
SESAME SEED GSF Intl 920 bgs (46460 lbs) (San Pedro) Haina, 6/20.
Louis Furth 880 bgs (44616 lbs) (San Pedro Haina, 6/20.
Order 880 bgs (44440 lbs) (San Pedro) Haina, 6/20.
SILICA PIGMENTS Rhone Poulenc 1584 bgs (89855 lbs) (Jebel Ali) Fos 6/19.
SILICONE Order 1 tnk (40013 lbs) (Alexandra) Rotterdam, 6/16.
SILICONE OIL Cosmos Shpg 109 dms (62446 lbs) (Laust Maersk) Tokyo, 6/19.
SODISUM ALGINATE Meer 2 plt (4,606 lbs) (Dart Americana) Le Havre, 6/18.
SENNA PODS Aphrodisis Products 11 bls (9,934 lbs) (Oriental Legend) Singapore, 6/17.
SODIUM CASEINATE Kerry Foods 1000 dms (45085 lbs) (Sea Land Express) Rotterdam, 6/19.
SODIUM CHLORITE ICC Ind 360 dms (43640 lbs) (Kazimierz Pulaski) Bremerhaven, 6/30.
T R America Chemicals 360 pkg (44286 lbs) (Sea Land Pioneer) Algeciras, 6/17.
SODIUM CYANIDE Gold Chem 325 dms (39209 lbs) (Oriental Freedom) Kaohsiung, 6/13.
SODIUM DICHLOROISOCYANURATE Order 128 dms (33863 lbs) (Ever Going) Osaka, 6/16.
SODIUM FERROCYANIDE Degussa 160 dms (67139 lbs) (Nurnberg Express) Antwerp, 6/17.
Order 880 bgs (37929 lbs) (Chao He) Hsinkang, 6/17.
SODIUM HYDROXIDE Mallinckrodt 343 dms (40000 lbs) (Atlantic Conveyor) Gothenburg, 6/20.
SODIUM LAURYL SULFATE Continental Chemical 875 ctn (39546 lbs) (Ever Going) Keelung, 6/16.
SODIUM METHYLATE Dynamit Nobel 1 dms (64 lbs) (Kazimierz Pulaski) Bremerhaven, 6/30.
SODIUM PERSULFATE Order 720 bgs (0 lbs) (New York Maru) Tokyo, 6/19.
SODIUM SACCHARIN Mitsui 270 dms (33334 lbs) (New York Maru) Nagoya, 6/19.
SODIUM SILICATE ICD Group 20 plt (45282 lbs) (Alexandra) Rotterdam, 6/16.
S & R Distr 640 bgs (33722 lbs) (Zulia) La Guaira, 6/18.
SODIUM TRIPOLYPHOSPHATE Browning Chemical 20 bbg (45018 lbs) (Ever Superb) Leghorn, 6/21.
SORBITOL E M Ind 360 bxs (43827 lbs) (Atlantic Star) Bremerhaven, 6/18.
SULFAMIC ACID NPS Intl 770 bgs (39846 lbs) (New York Maru) Kobe, 6/19.
SULFANILIC ACID Nippon Express 800 bgs (35419 lbs) (Oriental Legend) Kobe, 6/17.
SULFATHIAZOLE Order 360 dms (44445 lbs) (Kazimierz Puolaski) Bremerhaven, 6/30.
TALC Charles B Crystal 810 bgs (45238 lbs) (Nedlloyd Rotterdam) Marseille, 6/17.
L A Salomon & Brothers 810 bgs (45238 lbs) (Nedlloyd Rotterdam) Marseille, 6/17.
TELLURIUM Meteor Ind 38 crt (40825 lbs) (Lloyd Pacifico) Santos, 6/18.
TERPINEOL T R America Chemicals 90 dms (39683 lbs) (Jebel ALI) Fos, 6/19.
TERT-BUTYL BENZALDEHYDE Order 79 dms (34484 lbs) (Atlantic Star) Le Havre, 6/18.
TERT-DODECYL MERCAPTAN Order 1 tnk (42064 lbs) (Arild Maersk) Marseille, 6/18.
TETRACYCLINE ICC Ind 801 mlx (0 lbs) (Chao He) Hsinkang, 6/17.
Universal Transcontinental 201 dms (24372 lbs) (American Envoy) Rotterdam, 6/21.
TETRAFLUOROBORATE Order 50 bgs (5622 lbs) (Numberg Express) Bremerhaven, 6/17.
TETRASODIUM PYROPHOSPHATE Browning Chemicals 800 bgs (45416 lbs) (Ever Superb) Leghorn, 6/21.
TRICHLOROISOCYANURIC ACID Order 128 dms (37813 lbs) (Ever Going) Osaka, 6/16.
TRICHLOROETHANE M G Transport Warehouse 16 pkg (1208 lbs) (American Envoy) Bremerhaven, 6/21.
TRICHLOROETHYLENE Order 1 bks (1322772 lbs) (Lucor Manor) Birkenhead, 6/20.
TRICHLOROTRIFLUOROETHANE Order 78 pkg (27729 lbs) (Nedlloyd Rotterdam) Marseille, 6/17.
TRIMETHYL HEXAMETHYLENE Nuodex 80 dms (35538 lbs) (Kazimierz Pulaski) Rotterdam, 6/30.
TRIMETHYLOLPROPANE Leschaco 1 tnk (40663 lbs) (Numberg Express) Rotterdam, 6/17.
TRIPHENYL PHOSPHATE Order 1280 bgs (73545 lbs) (Atlantic Conveyor) Liverpool, 6/20.
TRYPTOPHAN Showa Denko America 20 dms (2557 lbs) (Oriental Freedom) Kobe, 6/13.
ULTRAMARINE Whittaker Clark & Daniels 730 bgs (41321 lbs) (Sea Land Express) Rotterdam, 6/19.
Hilton Davis Chemical 20 plt (45194 lbs) (TFL Jefferson) Rotterdam, 6/23.
Elco Shpg 18 plt (41310 lbs) (Kazimierz Putaski) Rotterdam, 6/30.
Schiff Foods Products 160 bgs (22328 lbs) (Jebel Ali) Dubai, 6/19.
UNDECYLENIC ACID Order 80 dms (35450 lb s) (Ever Superb) Fos, 6/21.
UREA MOULDING COMPOUND Order 820 bgs (45194 lbs) (Zim Keelung) Haifa, 6/16.
VANADIUM PENTOXIDE Intl Minerals & Chemical 80 dms (39331 lbs) (Chao He) Hsinkang, 6/17.
Brandeis Intsel 100 dms (22046 lbs) (American Envoy) Rotterdam, 6/21.
VANILLIN Order 180 dms (24326 lbs) (Chao He) Darien, 6/17.
VINYL PYRROLIDONE Order 1 tnk (39903 lbs) (Ever Guard) Hamburg, 6/15.
VITAMIN B D R Young 40 dms (2646 lbs) (Chao Ho) Shanghai, 8/17.
XYLENOL Order 2 tnk (83709 lbs) (Alexandra) Bremen, 6/16.
YELLOW PHOSPHORUS Brandeis Intsel 79 dms (39187 lbs) (American Envoy) Bremerhavn, 6/21.

CHEMICAL PROFILE

Continued from Page 50

WEAKNESS

Styrene was not profitable in 1985, despite market tightness worldwide. Styrene-butadiene rubber is a declining market.

OUTLOOK

A shortage of styrene supply worldwide is predicted within the next two years. No major plant construction is expected in the world through the end of this decade. These two factors should spur a period of increased profitability for the industry by the end of next year.

ADVERTISERS' INDEX

CHEMICAL PROFILE

STYRENE

AUGUST 4, 1986

SUPPLY

PRODUCER	CAPACITY*
American Hoechst, Bayport, Tex.	1,000
Amoco, Texas City, Tex.	750
Arco, Channelview, Tex.	1,200
Arco, Kobuta, Pa.	220
Borg-Warner (Cos-Mar), Carville, La.	750
Chevron, St. James, La.	625
Cosden (Cos-Mar), Carville, La.	750
Dow, Freeport, Tex.	1,300
El Paso Products, Odessa, Tex.	320
Sterling Chemicals, Texas City, Tex.	1,500
Total	8,415

*Millions of pounds annually. American Hoechst agreed, last March, to sell its styrene facility to Huntsman Chemical in five years. Meanwhile, Hoechst will operate the plant exclusively for Huntsman, which has taken over Hoechst's styrene marketing operation along with polystyrene facilities in Peru, Ill. and Chesapeake, Va. totalling 580 million pounds of polymer production capacity per year. Borg-Warner and Cosden participate in a joint venture at Carville, La. Each company owns half the output of the 1.5-billion-pound-per-year operation. A 200-million-pound-per-year expansion at the Carville plant came on stream last March. El Paso Products expanded its annual capacity by 30 million pounds over the last three years. Sterling Chemicals is buying Monsanto's Texas City, Tex. petrochemicals facility. The purchase includes the 1.5-billion-pound-per-year styrene operation and a 1.5 billion-pound-per-year ethylbenzene unit. Profile last published 9/5/83; this revision; 8/4/86.

DEMAND

1985: 7.6 billion pounds; **1986:** 7.8 billion pounds; **1990:** 8.65 billion pounds (Represents total apparent domestic consumption, including production of about 1 billion pounds per year for export sales and imports of 200 million pounds per year).

GROWTH

Historical (1978-1985): 6.9 percent per year; **future:** 3 percent per year through 1990.

PRICE

Historical (1954-1986): High, 42c. per pound, tanks, f.o.b. works; low, 6.6c. per pound, tanks, dlvd. **Current:** 18c. per pound tanks, f.o.b. works.

USES

Polystyrene, 55 percent; acrylonitrile-butadiene-styrene (ABS), 9 percent; styrene-butadiene rubber (SBR), 7 percent; styrene-butadiene latex, 6 percent; unsaturated polyester resins, 6 percent; miscellaneous uses, including other copolymers and styrene-acrylonitrile (SAN), 4 percent; exports, 13 percent.

STRENGTH

Styrene monomer is tight and its major single end use, polystyrene, is growing by as much as 6 percent per year. US producers have completed a three-to-four-year period of modernizing their facilities. This has improved capacity along with efficiency. The US should continue as a major supplier to the world market through the end of the decade.

Continued on Page 49

BOOKSHELF

Chemical Thesaurus

This two-volume set* accesses all the tradenames by which a multitude of chemical products are sold. It provides over 50,000 national and international tradename entries and enables the user to locate all the chemically equivalent products that are available. The information is also available as a software package for automated searching on DOS-based personal computers.

Volume 1 lists generic chemical substances alphabetically. Each entry includes the tradename equivalents that are available for that generic substance along with its manufacturer. Volume 2 is a companion volume, listing all tradename products alphabetically by their generic chemical description.

The digital form of the compilation of generic and tradename cross indices has been combined into a single data base package (Sprouse Scientific Systems). The search software allows data base entries to be located by chemical name, tradenames or company which manufactures the commercial product.

*THE THESAURUS OF CHEMICAL PRODUCTS. Two volumes. Cloth. 359 pages (Vol. 1). 6 X 9 inches. Chemical Publishing Company, 212 Cherry Lane, Vestal, N.Y. 13850. $145 per volume, $190 per set. Software package, $560.

Marketing High Technology

As high-technology products become increasingly standardized — practically identical from the customer's point of view — it is marketing that spells life or death for new devices or entire firms. This volume*, whose author is described as "the driving force behind the microprocessor explosion," purports to tell how to fight the marketing battle in the intensely competitive world of high-tech companies — and win.

The book dwells on the basic, such as how to go head-on against the competition; how to plan products, not devices; how to engineer promotions, market internationally, motivate sales people and rally distributors. Above all, the critical importance of servicing and supporting customers is emphasized. Total customer satisfaction, it's made clear, must be every high-tech marketer's ultimate goal.

*MARKETING HIGH TECHNOLOGY. By William H. Davidow. Cloth. 194 pages. 6 X 9¼ inches. Free Press News Division of Macmillan, Inc., 866 Third Avenue, New York, N.Y. 10022. $23.95.

Robotics in Textiles

While this book* deals with subject matter that is definitely in a formative stage, there is little doubt that from the standpoints of national self-interests, economic paybacks and technological feasibility the dawn of the age of automation and robotics in textiles and apparel has already begun. How well each firm or nation succeeds in making the transition from highly labor intensive to highly capital intensive organization depends in large part on how well the managers of existing firms understand the forces at work and plan for a future which includes a massive exchange in the technologies and human systems.

Part of the change taking place in the textile and apparel industries is evolving from historical bases. Moving pieces of fabric from one place to another by computer-controlled automatic overhead tram-ways and replacing human operators on sewing machines which stitch pockets onto shirt fronts are examples of such continuous evolution.

But another part of the change focuses on discontinuous, revolutionary technology where things like laser beams cut fabric instead of the scissors, knives and other metal blades that have done so for thousands of years, and things like ultrasonic waves provide seams in some fabrics instead of the needle and thread systems which have done so since the dawn of time.

Many of the authors of the papers contained in the volume participated in a recent seminar of the North Carolina State University School of Textiles, and some of the articles in the book are the result of that seminar.

*AUTOMATION AND ROBOTICS IN THE TEXTILE AND APPAREL INDUSTRIES. Edited by Gordon A. Berkstresser III and David R. Buchanan. Cloth. 328 pages. 8 X 9½ inches. Noyes Publications, Mill Road at Grand Avenue, Park Ridge, N.J. 07656. $45.

MEETINGS CALENDAR

AUGUST 4, 1986

THIS MONTH

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Summer national meeting, Sheraton Boston Hotel, Boston, Mass., August 24-27.

AMERICAN CHEMICAL SOCIETY, chemical marketing and economics division, seminar on R&D management, Scanticon-Princeton executive conference center and hotel, Princeton, N.J., August 13-15.

LATER ON

AMERICAN CHEMICAL SOCIETY, 192nd annual meeting, Anaheim Convention Center, Anaheim, Calif., September 7-12.

AMERICAN MICROCHEMICAL SOCIETY, eastern analytical symposium, jointly with American Chemical Society and Society for Applied Spectroscopy, New York Hilton Hotel, New York, October 20-24.

AMERICAN PETROLEUM INSTITUTE, annual meeting, San Francisco, Calif., November 9-11.

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS, 100th international meeting and exhibition, The Registry Hotel, Scottsdale, Ariz., September 15-18.

ASSOCIATION OF THE NON-WOVEN FABRICS INDUSTRY, eighth international conference and exhibition, Georgia World Congress Center, Atlanta, Ga., October 21-23.

CANADIAN CHEMICAL PRODUCERS ASSOCIATION, international symposium on transportation emergency response, Vancouver, B.C., Canada, September 14-18.

CHEMICAL GROUP, NATIONAL ASSOCIATION OF PURCHASING MANAGEMENT, Fall Conference, Marriott Pavillion Hotel, St. Louis, Mo., October 21-23.

CHEMICAL MARKETING RESEARCH ASSOCIATION, world chemical congress, jointly with the chemical marketing and economics division of the American Chemical Society, "The Chemical Industry: Where in the World Is It Going?", Newporter Resort Hotel, Newport Beach, Calif., September 7-10.

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, seminar on aerosol technology, Ramada Hotel O'Hare, Rosemont, Ill., October 27-29; 73rd annual meeting, Marriott's Harbor Beach Resort, Fort Lauderdale, Fla., December 7-11.

CHLORINE INSTITUTE, Fall meeting, The Homestead, Hot Springs, Va., September 21-25.

COMMERCIAL DEVELOPMENT ASSOCIATION, impact of mergers and acquisitions on the future of technology-driven corporations, Hershey Hotel, Hershey, Pa., October 26-29.

CONFERENCE BOARD, business outlook conference, Waldorf-Astoria Hotel, New York, September 24-25.

COUNCIL FOR CHEMICAL RESEARCH, annual meeting, Northwestern University, Evanston, Ill., September 28-30.

COUNCIL FOR RESPONSIBLE NUTRITION, annual meeting, "Health Messages: New Directions and New Opportunities," J.W. Marriott Hotel, Washington, D.C., September 7-10.

EUROPEAN PETROCHEMICAL ASSOCIATION, annual meeting, Monte Carlo, Monaco, September 28-October 1; distribution meeting, October 19-October 22.

FERTILIZER INSTITUTE, world fertilizer conference, "Global Trading Patterns," Hyatt Regency Hotel, San Francisco, Calif., September 14-16.

FERTILIZER ROUND TABLE, Sheraton Inner Harbor Hotel, Baltimore, Md., November 17-19.

FIRE RETARDANT CHEMICALS ASSOCIATION, Fall conference on proper processing and selection of flame retardants, Kiawah Island, S.C., October 19-22.

FRAGRANCE MATERIALS ASSOCIATION OF THE UNITED STATES, 10th international congress of essential oils, fragrances and flavors, Omni Shoreham Hotel, headquarters hotel, Washington, D.C., October 16-20.

K-'86, 10th international trade fair for plastics and rubber, Dusseldorf, West Germany, November 5-13.

NATIONAL ASSOCIATION OF CHEMICAL DISTRIBUTORS, 15th annual meeting, Ritz Carlton Hotel, Naples, Fla., December 2-5.

NATIONAL PAINT & COATINGS ASSOCIATION, annual meeting, Atlanta Hilton Hotel, November 3-5.

PULP CHEMICALS ASSOCIATION, [illegible] naval stores meeting, Waldorf-Astoria Hotel, New York, September 15-17.

SOCIETY OF THE PLASTICS INDUSTRY, [illegible] and conference — South, jointly with the Society of Plastics Engineers, Georgia World Congress Center, Atlanta, Ga., October 8-10.

SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSOCIATION, OSHA compliance seminar, Interconti-nental Hotel, [illegible] September 25-26.

TEXTILE ASSOCIATION OF THE [illegible] DUSTRY, 1986 polymer, [illegible] conference and trade fair, [illegible] Tenn., September 15-17.

JOBS & PEOPLE

JOBS & PEOPLE

David B. Collins, who has been named vice-president of film at Hercules Incorporated, responsible for the company's worldwide polypropylene business. He was most recently general manager of Hercules do Brasil.

MICHAEL P. WOLYNETZ has joined the plastics department sales force at Wilson & Geo. Meyer & Co... LINDA A. HERZOG has been named marketing manager for industrial products in the Chemical Division of Church & Dwight Company Inc... PHILIP A. REITANO has joined Charles A. Wagner Company as vice-president.

WILLIAM D. McIVER has been appointed product manager in Schenectady Chemicals Inc.'s Resin Division... JUDY NODJAK has been named controller of Degussa Corporation's Teterboro facility... RAYMOND W. BARKALOW has been appointed technical manager of glass coatings in the Industrial Chemicals Division of M&T Chemicals Inc.

THOMAS J. BROWNLIE has been named business operations manager for specialty chemical, chemical and petroleum catalyst and clays division of Harshaw/Filtrol Partnership.

M. Wolynetz L. Herzog

R. Finch

H. Werner

Mobay Corp. Appoints Two Vice-Presidents

Mobay Corporation has appointed R. Jay Finch vice-president and general manager of the Plastics & Rubber Division and Hermann R. Werner vice-president and general manager of the Dyes, Pigments & Organics Division.

The two divisions have been enlarged as part of a restructuring at Mobay that has consolidated the company's eight divisions into seven.

Mr. Werner had been with Bayer AG, Mobay's parent company in Leverkusen, West Germany, for the past 33 years.

P. Reitano

W. McIver

THOMAS W. FIELD JR. has been named chief executive officer of McKesson Corporation... ROBERT C. WARNER has been appointed sales manager for the solvents & Chemical Division of Neville Chemical Company... ROBERT HORAN has been Southwest regional account manager for the petrochemical, chemical and petroleum catalyst and clays division of Harshaw/Filtrol Partnership.

GLENN H. PETSCHKE has been named group leader of urethane resins in the Coatings & Adhesives Division of AZS Corporation and TIMOTHY S. HYDE has been appointed Northeast regional manager for the company's coatings division... FRANK G. MEYER has been elected vice-president and controller of Terra International Inc.

ANTHONY M. GRZYMKOWSKI has been named product manager in the new products/amino acids department of Degussa Corporation's Chemicals Division and ANDREW J. BURKE has been named personnel director at Degussa... KATHLEEN M. HIRSHMAN has been appointed manager of "Util-I-Fax," Union Tank Car Company's railcar listing and subleasing service.

JOAN ORENTLICHER has been appointed meeting planner for Bio-Lab Inc. and ANNE PINKERTON has been named director of customer service... CHARLES D. BRANDENBURG has been elected vice-president of Buckman Laboratories' Formulator Chemicals Division and DR. TITUS M. JOHNSON has been elected vice-president of the Agriculture & Wood Treatment Division.

Hugh Gallagher, vice-president and general manager of Air Products & Chemicals Inc.'s Performance Chemicals Division, who has been appointed vice-chairman of the steering committee of the Polyurethane Division of Society of the Plastics Industry.

Bee Chemical Appoints Marketing, Auto V-P's

Bee Chemical Company has named Joe Klein vice-president of marketing and John D. Harigan vice-president of automotive operations.

Mr. Klein was previously with General Electric, as regional sales manager for construction equipment sales. Prior to that, he was a sales representative with Exxon Chemical and Union Carbide.

Mr. Harigan was previously general manager for Hughes Adhesives Group.

J. Klein

J. Harigan

T. Brownlie

R. Frye

J. Nodjak

R. Barkalow

BUSINESS BRIEFS

BUSINESS BRIEFS

ATLANTIC RICHFIELD has retained Salomon Brothers, the investment banking firm, to assist in the possible sale of its three California-based agricultural and biotechnology operations. Proposed for sale are Arco Seed Company and Valley Dehydrating Company, both subsidiaries of Arco, and the Plant Cell Research Institute, which is involved in applying recent advances in biotechnology and molecular biology to agriculture.

BUREAU OF MINES says it has developed two new methods for preparing boron nitride powders, which should make it easier and less expensive to produce high-tech ceramics. Manufacturers depend on high-temperature, energy-intensive processes to prepare boron nitride and other ceramic powders. The bureau's methods work at lower temperatures and require raw materials that are less expensive than those now used by the ceramics industry, the Bureau of Mines says.

DEDERT CORPORATION, Olympia Fields, Ill., designers and builders of chemical process equipment and systems, has concluded an exclusive license agreement with Haldor Topsoe AS of Denmark to design and build their "Catox" incineration plants throughout the US and Canada. The "Catox" system removes hydrocarbon compounds from industrial emissions. It uses a catalyst which is said to be highly resistant to deterioration by sulfur compounds and chlorinated hydrocarbons.

H.B. FULLER Company has acquired the compounded dry animal glue product line from Hudson Industries Corporation, West Orange, N.J., for an undisclosed sum. The deal includes trade names, product formulas and customer lists for Hudson's line of compounded animal glues for applications in the graphic arts and packaging industries. Fuller says it will transfer production of the acquired product line to one of its US production facilities.

HERCULES INCORPORATED has sold its Union, Mo., plastic container plant to DRG, a worldwide packaging group headquartered in Bristol, UK. The Union facility manufactures thermoformed polyolefin containers for various packaging applications. The plant makes 200 million units a year and employs about 65 people. The containers are used for a variety of frozen, refrigerated and shelf-stable food products, as well as medical applications.

MOBIL POLYMERS has published a new four-color brochure describing the company's services for polyethylene rotational molders. The 12-page brochure describe's Mobil's technical support, customer service capabilities and R&D programs for the development of new rotational molding resins and applications. The brochure is available by contacting Mobil at its Greenwich, Conn., offices.

SALSBURY LABORATORIES has expanded its applications research for fine and specialty chemical makers. While continuing to serve the drug industry's needs for intermediates and generic drug products, Salsbury says it will dedicate resources to helping general chemicals manufacturers achieve cost efficiencies in production of medium-volume intermediates and in preparation of high-technology fine chemicals. The company has also named John Pezzanite as its new director of chemicals marketing.

SANZONE ASSOCIATES INC., Montville, N.J., has introduced a fully integrated software package for writing, distributing and tracking material safety data sheets. The package, called "MSDS Master," is compatible with IBM and Wang equipment, Sanzone says. The system provides suggested text for most sections of MSDS's.

SWISS POLYMERS, a wholly-owned subsidiary of Ebnother AG of Switzerland, and Union Carbide Corporation have entered into a cooperative arrangement to market Carbide's "Elotex" redispersible powders to customers in North and Central America. UCAR Emulsion Systems, based in Cary, N.C., will provide the sales, marketing and technical service support for the redispersible powders.